

WILD ANIMALS,
THEIR
NATURE, HABITS, AND INSTINCTS
WITH
INCIDENTAL NOTICES
OF
THE REGIONS THEY INHABIT.

BY
MARY ROBERTS,
AUTHOR OF
DOMESTICATED ANIMALS CONSIDERED WITH REFERENCE TO
CIVILIZATION AND THE ARTS.

PUBLISHED UNDER THE DIRECTION OF
COMMITTEE OF GENERAL LITERATURE AND EDUCATION,
FOUNDED BY THE SOCIETY FOR PROMOTING
CHRISTIAN KNOWLEDGE.

THE THIRD EDITION.

LONDON:
JOHN W. PARKER, WEST STRAND.

•M.DCCC.XLII.

LONDON:
HARRISON AND CO., PRINTERS,
ST. MARTIN'S LANE.

P R E F A C E.

WHO is willing to follow with me, in imagination, Wild Animals to their accustomed haunts, and to observe how wonderfully they are adapted for the places which they are designed to fill? Who is inclined to notice the grand or beautiful scenery by which they are surrounded, and to learn somewhat concerning the instincts with which their Maker has endowed them? Such researches may agreeably occupy our leisure time; for Imagination is an active principle; it can unite the past with the future, and bear us in a moment to the farthest portion of the habitable globe. We can pass over rocks and floods, and scale the highest mountains—observe the shaggy inmate of the Scandinavian forest in his wildest haunt, and the fierce possessor of the burning deserts of the Line amidst his wastes of sand. While thus engaged, we can avail ourselves of Cuvier's indefatigable labours, and select much that is interesting from the learned editors of his splendid work: we can listen also to the narratives of various travellers, and visit with them the scenes which they describe.

ANALYSIS OF THE CONTENTS.

PRELIMINARY OBSERVATIONS on Wild Animals . . .	1
ANTELOPE—Remarks on the Genus—Diffusion of the Groups into which it is subdivided—Striking localities of each— Tenacious adherence to different places . . .	263
ANTELOPE, COMMON—Dedicated to Chandra, a fabulous divi- nity of the Hindoos—A most elegant animal—Frequent resort—Found in Palestine . . .	270
ANTELOPE, SPRINGER—Migratory at certain seasons—Their wonderful appearance on the plains of Southern Africa	267
ARMADILLO	212
ANT-EATER—A curious creature	32
ALECTAGA—Where most numerous	175
BEAR—Places of resort—Magnificent scenery in Kamtschatka —Volcano of Klutchee—Poetry—Anecdotes of their extreme ferocity	31
BEAVER—Remarks on the instinct and peculiarities of—Con- struction of their houses—Social disposition—Where most numerous—Love of home—Singular mode of walk- ing—Use to mankind—Once numerous . . .	141
BAT—Remarks on—Opinion of the ancients: why disliked by the moderns—Wonderfully constructed—A few of the most curious—Scenery connected with them . . .	20
CERVUS GENUS—Localities of different species pointed out	229
CAMELOPARD, or GIRAFFE—By whom first mentioned— Where found—Entrance into Paris—Inoffensive nature —Exhibited in the amphitheatre—Observations on the practice—Food and enemies	252

CHACAL, or JACKAL—Where found—Lines to an Indian coin—Wild and forest-like plains of the Tandah, mentioned by Bishop Heber, as the resort of Jackals—Cries of the Jackal—Poetry—Habits of the tribe—Numerous in Egypt and Asia—Mentioned in Scripture under the appellation of Fox—Referred to in Nehemiah and Ezekiel	71
CHAMOIS—History of—Locality and habits—Mode of descending the rocks—Perils of the Chamois-hunters—Observations of Bishop Heber—Sketch of Scenery—Natural disposition of the Chamois—Voice and agility—Disappearing from the mountains of Switzerland and Savoy, Carniola, Greece, and Carpathia—Still numerous in the Tyrol—Domesticated specimen	266 and 273
CHINCHILLA	138
CIVET—Perfume—General habits—Easily domesticated	85
COLUGO—First noticed by Dr. Pallas—Where found—Wonderful construction of	19
CONCLUSION	287
CAVICORNIAN FAMILY—Where dispersed—Localities of the most conspicuous species	261
DEER, FALLOW—Known to the ancient Britons—Ossian—Figured in heraldry—Account of Ayles Holt, adjoining Wolmar Forest, their ancient haunt—Instincts and habits	236
DUCK-BILL	281
ELK—Peculiar to northern latitudes—Anecdote by Bishop Heber—Characteristic sketch—Extraordinary instinct—Mode of hunting—Virgil's description—Bones of the fossil Elk	230
ERMINE—Beautiful fur—Change of colour—Where found	50
FERRET—Natural history of—Rarely domesticated	48
FOX—Remarks on—Great sagacity—General habits and haunts—Mode of catching sea-fowl—Anecdotes	80
GARAGNAN	90
GLUTTON—Most celebrated species of—Remark of Linnæus—Where found—Mode of life	45

GEOGRAPHY of Animals, as well as Plants, wonderfully evinced on the Alps of Lapland—Bishop Heber's remarks on those of the Himalaya mountains—Beautiful sketch of local scenery	152
GENET—A beautiful and industrious animal—How useful—Perfume	87
GAZELLE—Most elegant of the species—Appropriate poetry—Where most numerous	263
GERBOA—Where common—To what regions principally confined—Activity and enterprise	174
GUINEA-PIG—Observations on—Innocent and inoffensive—Native country unknown	206
HEDGEHOG—Remarks on, tending to elucidate its peculiarities—Compared with other animals—Habits and favourite resort—Different species	23
HAMSTER, or Marmot of Germany—Curious instance of extended instinct and bounded intelligence—Burrows—Mode of life	170
HYÆNA—Rare and curious species—Peculiar characteristics	88
HARE—History of—Extraordinary sagacity—Peculiar habits—Remarks—Portion of happiness—Erroneous opinions exposed—Capable of domestication—Anecdote	190
HARE, CALLING—Where most numerous—Its haunts—Poetry	204
HIPPOTAMUS—A huge creature—Size and appearance—Where found—How secured—Strength compared with that of the insect tribes	213
HYÆNA—Habits of the Hyæna—Services invaluable to mankind, in many portions of the globe	92
KANGAROO	279
ICHNEUMON—Important to the Egyptians	88
LEMMING TRIBE—Migrations—Instincts and mode of life—Characteristic sketch	161
LOIR, or Fat Dormouse—Sleeping through the Winter	164
LION—Character and exterior of the noble creature—Power	

off voice—Poetry—Maternal affection of the Lioness— Places of resort in ancient and modern times—Combats of the amphitheatre—Influence of climate on men and animals—Lions capable of domestication—Mention of Lions in some remarkable predictions—How fulfilled— Past and present state of Edom and Babylon	95
LEOPARD—Where most numerous—Character and habits	134
LYNX—Mode of life, &c.	137
MARMOT—Burrows described—Mode of life—Extraordinary sagacity	180
MOLE—Advantageously gifted—Mole-hills—Industry—Un- justly aspersed—Useful to the farmer—Sagacity—Habits and mode of life	27
MOUSE, COMMON	167
MOUSE, MEADOW—Curious particulars—Method of reaping— Why disliked—Treacherously treated	158
MOUSE, ECONOMIC—Migrations—Anecdotes of—Common in Iceland	160
MONKEY RACE.—Orang Outang, Chimpanseé, Siamang, Patos, Green Monkey, Malbrouc, Magot, Mona, Baboon,— General habits of the race—Characteristic distinctions— Where most numerous—Local descriptions—Observa- tions on many striking peculiarities	5—17
MUSKS—Graceful creatures—Where found—When first no- ticed—Memoranda of different species	228
NÆLGHAU—A swift and savage animal—Where found	278
OUNCE	136
OTTER—Disposition of—Poetry—Habits and mode of life— Remarkable sagacity—Observations by Gesner—Used in fishing—Anecdote by Bishop Heber—Various spe- cies	54
PANTHER—Restrained to Northern Africa—Capable of do- mestication—Anecdote of a Panther at the Cape	126
PIKA—Singular history of—Making hay—Mode of life	199
POLECAT—Natural history of	47

PORCUPINE—Misrepresented by naturalists—Mild and gentle in its habits—Mode of life—Love of solitude . . .	187
RABBIT—Singular economy—Pleasing traits of character—Illustrative poetry—Sociality, and great love of order—Remarkable for filial affection	196
RAT	165
RATS and MICE—Habits and anecdotes of—Different species noticed	157
RODENTIA—Observations on this important order—Brief sketch of the numerous tribes that belong to it—Habitations	138
ROEBUCK	250
RHINOCEROS—Observations on—Capable of being domesticated—Enormous strength—Where found—Mode of hunting—Skin and flesh used by the Indians and Negroes . . .	218
RUSA GROUP—Attachment to local situation—Fossil remains—Moral observations	248
SABLE—Valuable for their furs—Sable-hunters—Poetry—Siberian exiles—Hardships of—Arrangements of the chase	51
SAIGA—General habits and locality of	269
Serval	136
SHREW	26
SQUIRREL—Observations on its general habits and sagacity—A mild and amiable animal—Where most numerous—Mode of voyaging—Economic instinct	182
STAG—Shy and graceful—Peculiar characteristics—Highly ornamental—Descriptive poetry—Anecdote of Cary, Earl of Northumberland—Ancient baronial residences—Leland's remark—Chantilly—Buckbell—Consequence of Civil Wars—Queen Anne's visit to Wolmar—Waltham Blacks—Numerous in Wolmar Forest—Removed to Windsor—Bishop Hoadley	240
STAG (NEPAUL)	248
STOAT	50
SURICATE—History and mode of life	91

TELEDU—Where found	43
TENEC—Found in Madagascar—Compared to a slothful man	27
TIGER—Numerous in Sumatra—Anecdote of the Tiger's ex- treme ferocity—Places of resort—Numerous in the forests of Ambra and Chotee—Tiger-hunt—Magnificent scenery described by Bishop Heber	115
WEASEL—Misrepresented by Buffon	49
WOLF—Instance of affection in the Black Wolf—General habits of the tribe—Poetry—History of Maria—Desolate condition of Carmel, the dwelling-place of Wolves	60
ZEBRA—Description of—Attempts made to domesticate this animal—Mr. Barrow's remark—Great firmness and gen- tleness essential	225
ZEMNI, or BLIND RAT—Observation on—Striking peculiarities of—Known to ancient naturalists—Olivier's remark— Habitations of—Care of the Creator	178
ZIBETT—Remarks on—Where found—Characteristic pecu- liarities	86

ENGRAVINGS.

	PAGE
Tiger Hunt	<i>To face Title.</i>
Sable-Hunters	53
Jackals uttering their nocturnal Cries amid the Ruins of Ammon	77
Lions amid the Ruins of Babylon	114
Beavers employed in cutting down a Tree	146
Elk alarmed by the appearance of Elephants	232
A Company of Elks engaged in shovelling back the Snow in search of Food	234
Chamois-Hunters	274

VIGNETTES.

The Chimpanse	6	The Chinchilla	139
— Colugo	19	— Gerboa	174
— Grisly Bear	32	— Spaluz, or Blind Rat	178
— Masked Glutton	46	— Porcupine	187
— Common Otter	57	— Hippopotamus	214
— Black Wolf	61	— Indian Rhinoceros	219
— Civet	83	— Zebra	226
— Hyæna	92	— Giraffe	253
— Lion	96	— Gazelle	265
— Tiger	115	— Kangaroo	280
— Panther	126	— Duck-bill	283

WILD ANIMALS.

WE were standing one evening on the rugged acclivity of a mountain, which commanded a fine, extensive view of a wide champain country, where a variety of different animals were browsing; each choosing the kind of pasturage most agreeable to its taste, and carefully avoiding some kinds which appeared to give the greatest delight to others. While thus engaged in observing the instincts of these creatures, we could not help considering how wonderfully this great globe is portioned out among its respective inhabitants; and if it were possible to embrace in one comprehensive glance, the dwelling-place of each, what a beautiful and magnificent scene would be unfolded to the spectator.

When the doors were opened of that building which floated forty days and nights upon a shoreless ocean, each pair of animals departed to their respective homes. The enormous Elephant betook himself to the forests of the East; the Wild-Ass to the lonely places of the earth; the innocent Sheep to the nearest pasture; the Horse to bound at large over elevated plains. And as the ancestors were then, so are the descendants now. The globe is equally bespread; no place wanteth its inhabitant; nor is any creature destitute of a proper dwelling, with all things necessary to its life, health, and

pleasure. The inhabitants of the water and the air, the amphibious, and those that perambulate dry land, and those which reside beneath it, all live and act in accordance with their respective spheres. They are gay and happy; they flourish in their proper element and allotted place; they require neither shelter, food, nor clothing, from the hand of man.

Dwelling in peace among themselves they are disturbed only by strangers, or the human race. Hence, they generally avoid the haunts of men, and depend for safety on the various resources which nature assigns them. Some, and these for the most part, gentle and innocent, retire to upland plains. The more fearful and the fierce, hide in the deepest recesses of the forest; others, as if conscious that, while traversing the surface of the earth, they are liable to danger, either excavate subterraneous dwellings, or seek out for shelter the recesses of caverns, or climb lofty mountains. Lastly, the formidable and ferocious kinds, inhabit the terrible places of the earth, and reign as monarchs in those burning climates, where man is frequently unable to subdue them.

But then, as every being, however free to act, and apparently unconstrained, is still subjected to certain laws, so brute animals, as well as men, feel the influence of climate. Consequently, the same causes which have civilized and softened the human species, have produced similar effects upon the lower creatures. The Wolf, which is, perhaps, the most ferocious of all animals in the temperate zone, is by no means so cruel or so terrible, as the Tiger of the torrid, or the White Bear, of the frozen zone. In

America, where the heat, though under the same latitude, is less than in Africa, the carnivorous animals are little dreaded. They are no longer the tyrants of the forest, rapacious monsters, which perpetually thirst for blood. Nor will this appear extraordinary, when we consider that all nature, even the vegetable tribes, feels more or less the effects of climate. Every country, or rather, every degree of temperature, has its peculiar plants. We discover at the base of those bold mountains, which have been termed "the load of the earth," the vegetables of France and Italy; towards their frozen summits, those of the northern regions; these are even found in the sleeted ridges of the African mountains. On the southern side of such as divide the Mogul empire from the kingdom of Cashmere, Indian plants apparently delight to grow; on the opposite, those of Europe are found. Drugs and perfumes, poisons of the greatest poignancy, fruits and flowers of the richest taste and fragrance, are generally diffused throughout the sultry regions of the globe. On the contrary, the productions of temperate climates are generally mild. The richest and most wholesome herbs, the sweetest fruits, and the gentlest animals, are peculiar to these favoured regions. Nor is this all: the animal creation are generally on a smaller scale. Our largest quadrupeds bear no proportion to the hippopotamus, rhinoceros, or elephant; our largest birds appear small, when placed beside the ostrich, or the cassowary; our fishes, reptiles, and amphibious creatures, shrink into insignificance, beside the whale and walrus of the Northern Seas, or the crocodiles

and serpents that infest the land and waters of the tropics. If we examine the same species in different climates, we shall also discover sensible varieties both in size and figure.

Wild animals are little subject to variation. As they are able to choose their food, and remain contentedly in their places of abode, their characteristics are more permanent than those of their domesticated brethren. They, happy foresters, free rangers on the mountain and the plain, never change their habits, or wander from one climate to another; their native woods, the vast savannas, or the lofty mountains, are the homes to which they cling. They fly, not so much from other enemies, as from the presence of man. Their Maker has provided them with resources against other animals, but to the power of man he has consigned them; and hence, in order to preserve their liberty, they are frequently constrained to shun his presence. But this does not always avail them: for how can they avoid a being who can entrap without seeing, and kill without approaching them?

As we look abroad into the magnificent museum where the hand of Deity has placed us, we are continually impressed with the remarkable fitness of every creature for the situation which it is designed to fill.

Observe the Ape, that strange fantastic animal, whose pliant limbs, and ceaseless activity, whose paws, so well adapted for climbing trees, and whose quick clear eye, tell of forest haunts, and wild wood gambols.

Passing by any generic descriptions, as foreign to

the general object of this work, we shall briefly notice such characteristic peculiarities in some of the most conspicuous, as may serve to explain the general habits of these wild people of the woods.

APES AND MONKEYS.

THAT celebrated ape, the Orang-Outang, (*Pithecus satyrus*,) resembles man more nearly than any of his kind. His natural history has often been blended with that of the Chimpanse; and much that appertains to the larger species of his brethren, has been assigned to him. Preferring the sultry regions of the earth,—the spice forests of Malacca, Cochin-China, and especially the great island of Borneo, are his favourite resorts. He is gentle when young, easily domesticated, and capable of much attachment; the similarity of his construction to the human race, enables him to imitate several of their actions, but his intelligence by no means equals the exaggerated accounts that we have received; nor does it, in general, seem superior to that of the dog tribe.

The Chimpanse (*Troglodytes niger*) is far superior to his brother in docility and submission, yet an apparent melancholy rather marks the few young specimens brought to Europe, than any superiority of mental acuteness. This dejection may be attributed to the loss of liberty, for when free to range through the sultry regions of Guinea and Congo, few of the monkey race are more active and alert. These creatures live in troops, construct their huts of leaves and branches, and armed with stones and

clubs, repulse from their dwellings both elephants and men, but this is to be understood of them only when full grown. The young*, when domesticated, may be taught to walk upright, to sit at table, and even to eat after our manner.



THE CHIMPANSE.

Troops of Siamangs, a species of long-armed apes, are common in Sumatra. They are said to be conducted by a chief, whom the Malays believe to be invulnerable. When thus assembled, at sunrise and sunset, they utter the most dreadful cries, which are stunning even to those accustomed to them, and frightful in the highest degree to strangers. With the exception of these morning and evening concerts, they are generally quiet; and, as they are naturally slow and heavy, they may be taken without

* The old Chimpanse is known by the name of the Pongo.

difficulty by those who come upon them unawares. But though deficient in quickness, they are remarkably vigilant; and thus, being apprized of danger by the acuteness of their hearing, they are generally able to escape. The forests are their citadels; mounted on the waving boughs, no one is more independent, or more happy than the Siamang; but should he venture to the ground, and meet the hunter, he has little chance of safety: his ineffectual efforts to escape exhibit his inability for moving swiftly on the ground.

The Monkey of this species is easily tamed, or rather, reconciled to bondage; for, either indifferent to every thing around him, or else unconquerably timid, he never displays the pert familiarity of his species; his submission rather appears to be the result of apathy than of confidence or affection.

Unlike the generality of their kind, these monkeys abandon a wounded companion, unless, indeed, it be a young one. Maternal affection then predominates over every other feeling, and the generally stupid Siamang often throws away her life in an ineffectual attack upon the enemy. In happier scenes, and amid the silence of the forest, this amiable feeling is shown under different circumstances. The traveller who visits the vast forests of Sumatra, often witnesses the ludicrous sight of a parent Siamang busily occupied in washing, rubbing, and drying her infant charge, regardless of its pettish cries and resistance.

The Red Monkey, or Patos (*Simia cercopithecus ruber*), is remarkably pretty, but violent and capricious. Bruce gives an interesting description of

these animals, and the characteristic curiosity which brought them in view. They came down from the highest branches, and clung to the lower ones, which bent with them almost to the water's edge; and they were apparently much amused with observing the boats as they passed down the river. But very shortly they commenced hostilities, and pelted the rowers with stones and broken boughs. The men fired,—the Monkeys pelted more furiously,—and though many fell, the survivors were unwilling to retreat. In short, they displayed a degree of spirit and resolution that must avail them much when engaged on equal terms.

All modern naturalists speak of an animal commonly called the Green Monkey (*Simia sabæus*), which is found in the Cape de Verd islands, and on the neighbouring shores of Africa.

These Monkeys generally display a considerable portion of malice and intelligence when kept in the menagerie. Adamson is the only traveller who has given any account of them in their natural state. He met large companies in the woods of Senegal, where they remain on the trees, and preserve the most perfect silence, even should they chance to be wounded. While passing with his companions, he was suddenly assailed from every side, by large branches of trees, which the inhospitable creatures hurled out of their leafy citadels; nor did they appear to be alarmed when he returned the compliment by a discharge of fire-arms.

The Malbroûc (*Simia cynosurus*) is the largest of his tribe. His hind legs are disproportionably long, but they aid him in climbing, and in springing from

tree to tree. We find, accordingly, that these wild inhabitants of the forest rarely descend to the earth. Assembled in troops, they dwell for the most part in those capacious canopies of verdant foliage which cover the rich forests of Southern Asia; fellow-citizens with the birds, exposed to no danger, but from the largest of the serpent tribes, or the more eager pursuit of man. From these lofty citadels, they annoy the traveller, as well by the petulance of their motions, as their incessant cries. None can surpass them in agility. They are, as it were, the rope-dancers of the forest; and yet, when captured, they seldom suffer their voices to be heard, and never but in a shrill and feeble cry. The young males are docile; but as soon as they feel their strength, they become, like all monkeys, excessively malicious, even towards those intrusted with their care. The females alone continue gentle, and appear susceptible of attachment. Circumspection constitutes a striking feature in these strange foresters; for, though extremely irritable, the Malbrouc will calculate his movements with peculiar care, and execute them with surprising dexterity. Thus, constantly on the watch, he is never completely tamed, or brought to submit with patience to restraint. He is susceptible of no other education than that of nature; but the moment he is treated with violence, his petulance is at an end,—he becomes silent, melancholy, and speedily expires. •

• In elegance of form, gentleness and graceful motions, the Mona, or varied Monkey (*Simia mona*), may be considered as superior from almost every other. This graceful creature is distinguished by his

endearing qualities, and exquisite variety of colour: his fur is often varied with green and golden tints, with the softest brown, and the most vivid black. In short, he may be styled the parrot of the Monkey tribe; though without that love of mischief which often distinguishes those gaily-coated birds. The traveller who sees him sporting in his native forests, might recall to mind the vivid description of the poet:—

With merriment, and song, and voices clear,
A joyous troop from leafy bowers advance;
The pigmy people doff the targe and spear,
And loud enlivening strains provoke the dance.
They meet, they dart away, they wheel askance;
To right, to left, they thrud the flying maze;
Now bound aloft with vigorous spring, then glance
Rapid along: with many-coloured rays
Of tapers, gems, and gold, the echoing forests blaze.

Minstrel.

Baron Cuvier describes an individual of this interesting tribe which grew up under his immediate observation. The creature was young when first received at the French menagerie, where his gentleness soon caused him to be left at liberty. Age did not alter his excellent disposition, and as he grew older, his agility was unparalleled. But all his motions were gentle, and his actions circumspect; he was persevering in his efforts, but never violent. When, after considerable solicitation, his requests were refused, he would go off in a gambol, and entertain himself with some new object. He had no idea of property; but would take whatever pleased him, even such articles as had previously been the occasion of his punishment; and he would execute these

thefts with dexterity and silence. He would open doors and boxes in which the key had been left, by turning it; he would untie knots, undo the rings of a chain, and search pockets with such address, that his hands could not be felt, though the owner of them well knew that he was in the act of plundering. The examination of pockets was, indeed, his most agreeable occupation, because he expected to find in them those articles of food which were purposely placed there. He was not remarkably affectionate, but when tranquil, and not otherwise employed, he received caresses with much apparent pleasure; and when any one exhibited an inclination to play with him, he would signify his consent in a very graceful manner. He then threw himself into a surprising variety of attitudes, bit gently, pressed against the person, and accompanied all these little gambols with a soft and gentle cry, which seemed an expression of much joy. Unlike a large proportion of his brethren, he never made grimaces; his countenance was always calm, and often serious: in short, he was considered the most refined and amiable of his species.

In whatever degree the human countenance and form may be indicative of the moral or intellectual character; however liable we may be to error in pronouncing on the man from those exterior appearances, certain it is, that they generally form among the lower animals a tolerably safe criterion of judgment. In the young Orang-Outang, the Gibbon, and Chimpanse, where a similarity to the human face and form is most remarkable, the greatest degree of intelligence and docility is discoverable. The

Guenons, on the contrary, all of which are more or less distinguished for their malice, petulance, and mischief, carry in their looks and motions the external indications of these propensities. Those among them of a milder and more harmless character; those which are only innocently playful, those which discover any feeling of gratitude, or any susceptibility to attachment, are likewise distinguished by corresponding differences in their conformation, and manifest, in the mildness of their looks, in the gentleness and gracefulness of their motions, the favourable peculiarities of their mental character.

Of all the Monkey tribes, the one upon which we now proceed to offer a few remarks, is by far the most ferocious and unpleasant. We find, accordingly, that the appearance of these creatures corresponds with their natural dispositions; that they have less resemblance to the human, and more decided conformity to the lower orders of creation, than in the species we have hitherto reviewed. This becomes more remarkable as we proceed, and is particularly conspicuous in those animals to which the name of Baboon is popularly applied, and, until lately, was exclusively confined, by natural historians. We find, however, that the same character generally pervades the whole community, from the Magot, who was formerly reckoned among the Apes, and thought to be a connecting link with the Orangs, to the ferocious Papion, and the cruel Mandril.

The Magot, or Barbary-Ape (*Simia innus*), which is placed by Cuvier at the head of the Baboons, is

an animal not without intelligence. This precious gift, assigned to the animal creation for the important purpose of preserving and fixing their condition in the universe, always conduces, in a state of natural liberty, to their welfare and independence; while, on the contrary, under the government of man, it too frequently becomes to them a source of fertile misery and persecution. The voice of the shepherd is generally sufficient to guide his fleecy charge: their limited faculties do not permit them to be employed in any way wherein the intervention of harsher means may be necessary to enforce obedience. But the whip is inhumanly put in requisition to awaken the intelligence, and stimulate the activity of the horse and dog. The ill-fated Magot owes to his intelligence the numberless torments that are inflicted on him by mountebanks and show-men. With the exception of the Orang and Gibbon tribe, he is the only Monkey of the Old World that is susceptible of instruction. The others, either stupid, ferocious, or endowed with unconquerable levity, are incapable of learning anything in a state of slavery; but then, they have the consequent advantage of preserving their liberty, while the unhappy Magot is constantly liable to the loss of his on account of his more tractable disposition.

Notwithstanding this, the male Magot submits to the dominion of man only in extreme youth. When full-grown, he becomes less tractable, and, in a short time, refuses to submit. Caresses and severity are alike unavailing. Equally incapable of confidence or of fear, he evinces a savage love of independence, a feverish and devouring desire to revisit his sylvan

home. The painful state into which this feeling throws him, especially if increased by hardship, is often followed by death.

But if kindly treated, he becomes accustomed, if not reconciled, to his fate. He continues sitting all day, leaning with his arms upon his knees, looking stupidly at what is passing; and, unless when occasionally drawn from his lethargy by the pressing calls of hunger, he seems to dream his life away in a sort of intermediate state between animals and plants. But, in a state of liberty, the Magot is, perhaps, one of those vivacious creatures which combine the highest degree of bodily activity with the greatest portion of intelligence. He is distinguished for petulance, vivacity, and intelligence; and these qualities render him decidedly superior to most other animals, and nearly absolute in the countries which he inhabits. Assembled in numerous troops, with his companions, on the waving branches of the forest, they openly attack such of their enemies as they are able, and frighten away others by means of their hideous cries.

Their most dangerous enemies are cats* of the middle size, who possess, like themselves, the faculty of climbing, and often surprise them in the silence and obscurity of night. Yet, notwithstanding their numerous sources of security, they do not appear to occupy any great extent of country; it has not yet been ascertained that they are found beyond the limits of Barbary, Egypt, and the southern parts of

* The smaller animals of the genus *Felis*, as, for instance, the lynx, the ocelot, &c.

Spain. Their chief resort seems to be the northern regions of Africa.

The Magot walks habitually on all fours, though in an awkward manner; but he displays astonishing agility in climbing. When taken prisoner, he seems suspicious of the intentions of his keeper, and smells the provisions that are offered, before venturing to partake of them. In a state of nature, he generally feeds on fruits and leaves. When angry, his jaws move with astonishing rapidity, and his voice becomes hoarse, though otherwise soft and pleasing; and when attacked, his long canine teeth and nails enable him to inflict the most formidable wounds. Accustomed to live in flocks, and missing the wild society of his native woods, he thankfully adopts the little animals that are offered to share his captivity; he takes them about with him, holds them in his paws, and evinces extreme displeasure if any one attempts to deprive him of them. Travellers relate, that these animals, when in a state of nature, manifest the utmost care and tenderness towards their young.

The Maimons, or Pig-tailed Baboons, are originally natives of India. They people the forests on the banks of the Ganges; and, encouraged by the invincible repugnance which the Hindoos evince to take away life, they walk fearlessly into the towns and cities, to search for more agreeable food than the woods supply. The character of these animals is untractable. While young, indeed, they are susceptible of kindness, but when more advanced, they become malicious; and age renders them ferocious. As they are far from being deficient in

intelligence and penetration, their malice is often dangerous. Like others of the race, the female Baboons evince much affection for their offspring. Mrs. Heber mentions that a gentleman, an acquaintance of hers, in Ceylon, having shot at a young Maimon, the mother came boldly up, and wrested the gun out of his hand, without doing him any injury.

Monkeys of this tribe generally equal the Wolf in size; their proportions indicate agility and strength, while ferocity, intelligence, and rage, are depicted in their countenances; their very nature seems compounded of these qualities, and their most predominant characteristic is an almost inconceivable capriciousness. They are observed to pass in a moment, and without any apparent cause, from affection to menace, from indifference to hatred. In a state of liberty, their natural intelligence serves as a corrective to this tendency, or more properly speaking, as a preventive to its full development; as they quickly recognize, most carefully avoid, and generally render fruitless, the endeavours of their enemies to circumvent them, by uniting cunning with dexterity.

Thus, ever on the watch, the utmost alacrity will scarcely deter them from laying a plantation waste; and when danger presses, they avail themselves of their natural strength. One of this turbulent class has been known to wound his keeper dangerously, because he merely threatened him with a stick.

As these wild creatures are susceptible of an education arising out of the circumstances which surround them, so are they, likewise, in some mea-

sure, capable of receiving an artificial one from the hand of man.

Hence they are sometimes seen in public places, amusing the people by such exercises as are performed at the command of their master, but this is only in youth. As they grow up, the love of liberty and independence becomes predominant, and they become extremely ferocious.

The Monkeys are designed to reside in the woods, and to make the trees their habitations. Their movements on the earth are therefore slow, and they rarely attempt to stand erect. If constrained by circumstances, or by a wish to reach some tempting fruit, they, when offered to them, advance a few paces. But in a state of nature, they spring to a prodigious distance: traverse in a moment the whole extent of a large tree, assume every possible attitude, leaping from one position, and that apparently the most difficult, to another still more extraordinary, by rapid and wonderful evolutions, without experiencing any obstacle from the multiplicity and complication of the boughs. In old age their activity forsakes them; they may then be seen sitting tranquilly on some firm bough, with sedate and expressive countenances, as if reflecting on the past.

As the capricious creatures, of whom we have just spoken, seem to form a connecting link between the lower animals and man, so the Lemur tribe are the last in the great chain that unites the quadrumana to the rest of the mammalia; and yet, with the exception of a certain similarity in outward form, they have little in common with the Simiæ, either in appearance or habits.

These animals being, for the most part, accustomed to come forth in the night, Linnæus, in reference to the Roman mythology, elegantly denotes them Lemurs*.

They afford an ample field for speculation and research. To those, especially, who consider the whole class of mammalia with a view to the position they occupy on the earth's surface, none are better adapted to call forth that enthusiasm of research which springs naturally from a slight acquaintance with those phenomena, whose causes and connexions are as yet unveiled. The Lemurs are, in short, as little known as their native country, the island of Madagascar. Their relations, also, with the other mammalia, are too remote to render any conclusion from the nature of the one, as referring to that of the other, either probable or satisfactory.

The Galagos are a sub-genus, as yet but moderately known; an industrious race, distinguished by the largeness of their eyes, and exquisite sense of hearing; resembling the Squirrel and Monkey tribes in their general habits, and peculiarly inhabiting the great forests of gum-trees, on the deserts of the Sahara, where they make their nests in the loftiest branches, with a bed of grass and leaves for their little ones. They are frequently bought by Europeans from the Moors, who trade towards the coast, and who call them "animals of the gum," from their predilection for this product, though their taste for insects is more decided.

We owe to Dr. Pallas an acquaintance with the Colugo (*Galeopithecus rufus*), whose size and extra-

* *Lemur*, a Latin word, signifying a ghost.

ordinary conformation claim for him a conspicuous place among the productions of nature; yet there is little in the history of this wild creature to re-



THE RED COLUGO, (*Galeopithecus rufus*. Pallas.)

commend him to the attention of the curious. A native of the Molucca and Philippine islands, and preferring to dwell in the most solitary woods, he is seen occasionally bounding with astonishing celerity from one bough to another, in quest of the richest fruits. When about to descend from a tree, he spreads forth a membrane in the same manner as the Flying-Squirrel, balances himself, and comes gently down upon the place he aims at; when, wishing to ascend, he springs upward with surprising leaps. This membrane is continued on

either side, from the neck to the fore-feet, thence to the hinder, and again to the tip of the tail: it is covered with soft fur on the upper surface; beneath, a variety of veins and fibres are conspicuous, and serve as a blanket for the young.

BATS.

THERE is not, perhaps, throughout the whole extent of organized existence, a greater contrast, than between the vivacious inhabitants of the woods, full of grimaces and chatter, and the melancholy family of the Bat. The one all life and animation; the other solitary and repulsive.

Though animals of all descriptions are equally perfect in themselves, since they proceed from a beneficent Creator, yet, in relation to man, some are more agreeable, while others seem imperfect. Of the former, are those whose figures appear attractive, because their members are well-proportioned, and their movements natural and easy. The latter, which to us have an hideous aspect, comprehend all those whose qualities are noxious or uncommon, and whose general organization differs from our preconceived ideas of beauty. Yet, doubtless, nothing can be more unfair than the conclusion, that a creature is imperfect or deformed, if it happens to be an object either disagreeable or repulsive in appearance. Amidst the infinite productions of creative power, an astonishing variety of forms and faculties, of instincts and habits, are everywhere discoverable; yet they compose one mighty plan, of which order and fitness constitute the component parts.

The Bat was not a favourite with ancient naturalists, and the moderns retain somewhat of this dislike; they scorned it as holding no legitimate rank in the fair creation; as half a bird, and half quadruped, with disproportionate claws, a mouth extending from ear to ear, and small suspicious eyes. They saw not in this remarkable contour, a wonderful adaptation to its mode of life; a striking proof that every animal is so constructed as to provide for its own safety, and to enjoy its prescribed portion of allotted good.

The animals that gave rise to these remarks, resemble such small quadrupeds as live on insects, in their gloomy habits and nocturnal life. They pass a considerable portion of the year in a lethargic state, and being exquisitely susceptible of cold, they seldom venture from their retreats, except in the fine Summer evenings.

When the folding star, arising shows
Her paly circlet,

they become extremely active, companions of the wandering moon, and are typical of solitude and silence. Their motion is neither rapid nor direct, but consists of quick vibrations; and while thus employed, they seize both flies and gnats, and those thickly-coated moths which love the shades of night. This is all that the natural historian has to relate concerning them; other particulars rather refer to the different genera and species. They are very widely diffused, and much of fable has mingled with their history. The ancients consecrated them to Proserpine, and fancied that they emerged from her dusky regions. Those among the painters who

endeavoured to embody on their canvass the Fury Alecto and her two sisters, assigned to them the leathern wings of these strange quadrupeds; nor did the Muse disdain to borrow from the Bat her wildest fiction of the Harpy. That they have little in their exterior to recommend them cannot be denied, nor have they any known redeeming qualities, with which to challenge our consideration and regard; but their lives are innocent, their manners inoffensive: and though long reviled, and injuriously treated, modern poets have loved to associate them with calm twilight, the evening star, and the fair planet which holds its noiseless course through the immensity of space. Thus circumstanced, we think of them, as of lonely, ideal forms, seen, indeed, but yet so transiently, as to leave only an indefinable impression on the mind.

There are several species of the bat in England, for instance, the short and the long-eared bat, which are associated in our recollection with the banks of the Teign, or Tamar, rich in scenes of loveliness and grandeur, and in various objects of interest. We have also listened to their short shrill shrieks, and heard the rustle of their wings around the most interesting of our monuments of old baronial power, the proud strongholds of the Redverses, and the Courtenays,—and watched them, in the gloom of evening, passing and repassing the waters of the Lid, which, rolling amid rocks, and bursting through caverns of gloomy and terrible grandeur, visits in its course the old Norman keep of another castle, the damp and cheerless dungeon of Lidford, the once dread stronghold of cruelty and oppression. We

do not pretend to notice them as peculiar to these spots; they are found commonly, in old barns and outhouses, church-steeple, and dilapidated ruins; different species belong to various portions of the globe, and are equally dissimilar in their localities and haunts. One district is appropriated to one division, another to another; some are peculiar to the ancient continent, others to the new; some are assigned to Egypt, and chiefly inhabit the Pyramids; others, again, to the Indian Archipelago: certain species cover themselves with their wings, as with a mantle, and adhere to rocks, or subterraneous buildings; others cling to the interstices of dismantled ruins, when wearied in their nocturnal flight. He who passes that way in the still moonshine,

When buttress, and buttress, alternately,
Seem framed of ebon and ivory,

may see these strange, uncouth figures, thrown in dark shadow on the walls; others, again, suspend themselves from the branches of tall forest-trees, where they resemble, in the distance, rich clusters of ripe fruit.

HEDGEHOGS.

THERE are some animals, and among others, the Hedgehog, that manifest in an eminent degree the care and attention bestowed by the Creator on their preservation. In the majority, indeed, of small animals, the continuance of their species appears mainly to depend on that kind of balance in the animal world which constitutes the economy of nature, and not so much on any direct means

afforded them for that purpose, or any express provision for their security and preservation. The pursuers and the pursued, the rapacious and the innocent, such as fly, and such as have recourse to concealment for refuge, are reduced, as regards each other, to a number pretty nearly fixed, and which cannot alter with respect to any one division, without some consequent and corresponding alteration as regards another. Thus, for instance, if the carnivorous species should increase beyond the common ratio, those which yield them food would be exterminated, or they themselves must perish from misery and hunger. It would be impossible for either to resist the imperious control of circumstances. The state to which they must inevitably be reduced, would be the natural consequence of a law, founded on unalterable conditions, and acting over the whole system of nature.

But the Hedgehog (*Erinaceus Europæus*) is one of those animals which offer some exception to this general law. His means of defence are, to a certain degree, independent of the power of his enemies. Notwithstanding the weakness of his little body, he bids defiance to them, and braves their attacks in all the consciousness of security, and finds the means of escape, of shelter, and resistance, in the resources that are beneficently assigned him. The thorns that radiate around his body, constitute a bristling rampart, before which the most powerful and voracious of his enemies are obliged to retire.

That "the Fox knows many things, and the Hedgehog but one thing," was a proverbial saying

of the ancients. Even the Weasel, Marten, Polecat, Ferret, and rapacious birds of prey, all but the crafty Fox give up the contest in despair. He, alone, has discovered the method of making his antagonist unroll, by wounding his feet. This throws him off his guard; he thinks only of effecting his escape, and then his insidious enemy renders him an easy prey, for the under surface of his body is covered with hair only.

It is not easy to conjecture, for what reason so impenetrable a coat of mail has been conferred upon this unoffending creature, whose silence, littleness, and obscurity, whose few wants, and love of solitude, sufficiently conceal him from all eyes, and shelter him from every enemy. One might imagine, from the armour in which he is beneficently wrapt, that he was destined to perform some important and necessary part in the grand economy of nature; but his habits and his instincts do not materially differ from those of his brethren, creatures of various localities, uncased in armour, and unprovided with any warlike weapon, yet still living out the prescribed period of their existence.

The majority of these also shun the light of day, and conceal themselves in cavernous recesses, or hollow rocks. Nor is the hedgehog distinguished for more intelligence than the rest; for in all, the power of perception seems confined to distinguishing, among the few causes that affect their well-being, the hurtful from the advantageous.

The nature and disposition of this unobtrusive little animal are obvious. His heavy form, short limbs, and peculiar mode of walking, indicate that

his agility is small, his intelligence limited, and his life obscure. The hedgehog generally lies concealed through the day; his humble dwelling is at the foot of trees, in hollows made by the roots, to which the moss forms a slight and second covering, or else among heaps of stones, and in deserted rabbit-holes. In these retreats he passes his quiet life, and never sallies out till evening; he then proceeds in search of food, which principally consists of snails, earth-worms, and roots.

Three species belong to this race; of one, we have already spoken: the long-eared inhabits the eastern regions of Asiatic Russia, and occasionally Egypt; the third, with pendent ears, is found in the peninsula of Malacca. They mostly live under ground, and rarely walk abroad, except at night.

THE COMMON SHREW.

THE common Shrew excavates his dwelling in our fields and meadows; he seldom ventures out till evening, and lives on insects. Species of this animal are widely dispersed, and found in almost every part of the ancient world; the Desman is common along the lakes and rivers of Southern Russia, where his means of support are similar, and in great abundance; to which we may add, that his construction is beautifully adapted to the little sphere he is designed to fill. It is foreign to our subject to enter much at large into the history of this animal, yet we cannot omit to notice, that the Desman is as well adapted to swim in water as to walk on land; and that his feet answer a two-fold purpose, being either organs of locomotion on land, or genuine oars. His

limbs are short, and the toes connected by membranes. The tail also, being flattened, materially assists him in swimming.

We find, accordingly, that the Desman passes a considerable part of his time in or beneath the water; never does he willingly seek for a dry place; and if he journeys from one pond to another, it is only by the aid of some subterraneous channel, or else of a ditch filled with water.

Slothful men may read their character in the lethargic Tenec of Madagascar. Though surrounded by all the beauty and luxuriance of that land of fruits and flowers, which receives and nourishes upon its ample shores, the richest productions of either zone, and of each continent, he sleeps profoundly for a quarter of the year, while all around him is beauty and luxuriance.

THE MOLE.

Of all the commoners of nature, the Mole (*Talpa Europæa*), perhaps, is the most advantageously gifted. With the exception of sight, which is the weakest of all his senses, because it is the least exercised, his other organs possess extraordinary sensibility. He also possesses the art of securing himself from injury and inquietude, by instantaneously excavating an asylum, and finding a plentiful subsistence without the necessity of going much abroad. His hearing is extremely quick, his sense of smelling exquisite. His fur is like velvet, and he always looks in good condition. He has hands rather than claws; his strength is considerable, and

he possesses an extraordinary degree of sagacity. Such are the characteristics of this laborious and contented creature; and though cherished in obscurity, they are preferable to more brilliant qualities when not consistent with safety.

The Moles never form their subterranean dwellings except in rich and mellow ground; in their attention to the young, and the means they employ for its comfort they are superior to most animals. They inhabit the temperate parts of Europe, America, and the Cape of Good Hope.

Some naturalists assert that the Mole, like the Badger, sleeps till the voice of Spring invites him forth; but this is not correct. The latter often leaves his house in quest of food, as the print of his small footsteps on the snow evinces. The former sleeps so little during the Winter, that he raises the earth in the same manner as in Summer, and hence the proverbial saying, "Now a thaw approaches, for the moles are building up their houses."

Thus solitary and retired, they amply repay the farmer for the inconvenience they may occasion him. Some would proscribe, and utterly annihilate the race, and even the amiable Cowper has unjustly said concerning them, in his Morning Winter Walk:

Now ankle-deep in moss and flowery thyme,
We mount again, and feel, at every step,
Our foot half sunk in hillocks green and soft,
Raised by the mole, the miner of the soil.
He, not unlike the great ones of mankind,
Disfigures earth; and, plotting in the dark,
Toils much to earn a monumental pile,
That may record the mischief he has done.

Others protect and love to harbour them; for, if

they destroy the roots and seeds, which are the care of man, they also destroy worms, insects, and noxious weeds, which are alike inimical to his industry; even the heaps of earth, when spread, become serviceable as manure, particularly on meadow-land. However detrimental, therefore, these animals may be, especially to gardens, it is difficult, where they are not very numerous, to ascertain the mischief they occasion, if their beneficial offices are but placed to their credit.

It has justly been observed, that an attempt to destroy a species, is an usurpation and abuse of the power of man, which would surely be detrimental to his interests, were he to succeed. Nothing is made in vain; to endeavour to destroy, therefore, the balance of Nature, in the immensity of her works, is to violate her laws, and consequently to occasion mischief and confusion. It may be the duty of man, as the agent of Omnipotence, to limit the undue multiplication of some species, but not to annihilate any. Yet even this is provided for without his interference: species, noxious in certain particulars, are generally the means of checking the increase of others, equally, or still more extensively injurious.

The Mole exhibits an admirable degree of ingenuity in constructing his subterraneous dwelling. If ever he abandons his asylum, it is only for the purpose of seeking some more commodious situation, and the moment he has found it, he sets to work. He closes up the entrance of his retreat, apparently dreading the open air as much as the blaze of day, and carefully avoids the neighbourhood of swamps or hard and rocky soils. He selects, in preference,

prepared and cultivated lands; but, if a small spring of water should unexpectedly surprise him, he hastily quits his dwelling place for a more elevated station. The overflowing of a stream or river is, to him, the greatest of all possible calamities, and uniformly diminishes their numbers; hence they change their habitations according to the changes of the atmosphere. During Winter, and in the rainy season, they retire to elevated places; in Summer they descend into the valleys, and if the drought continues long, they take refuge in some cool and shady place, along the banks of rivers, or running streams.

None are more habituated to labour than this industrious engineer. His means of subsistence are concealed in the earth, and he is therefore continually at work. Long alleys, usually parallel to the surface of the soil, and in depth from four to six inches, constitute the evidence of his laborious life. A skilful architect, he forms his galleries with equal art and activity. At one time, he only works near the surface of the soil; at another, he digs deeper, according to circumstances and temperature; but all his roads have passages of intercommunication. Should anything disturb him, he hastens into a perpendicular tunnel, which he excavates to the depth of nearly two feet: should his passages or heaps be by any means disarranged, he prepares instantly to repair them. While thus employed, or in throwing up those little domes which are called mole-hills, he is said to pant and blow, as if overcome with the exertion.

We may easily discover to whom these labours

should be assigned, whether to youth or age, whether to the father of a family, or to one who is engaged in maternal duties. The mounds thrown up by the female are smaller and less numerous; those of the young are still fewer, imperfect, and of a zigzag form, while the terminating channels or trenches are nearly on a level with the surface of the soil; those, on the contrary, of the more able and experienced, are numerous, and thrown up as with a vigorous hand. It has been observed, that their hours of labour are sunrise and sunset, noon, nine in the morning, and nine at night; that they are less industrious in Winter than in Summer, and that their activity sensibly diminishes during cold weather, though they do not become torpid, as some naturalists erroneously assert.

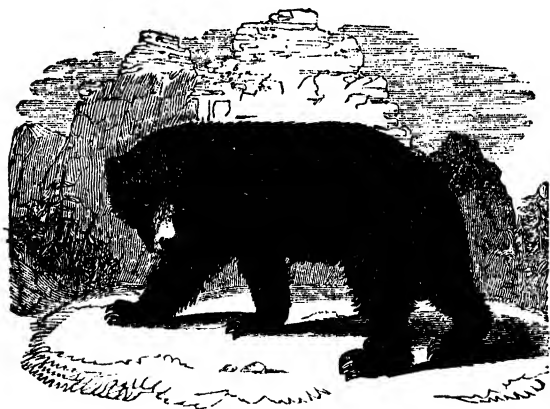
THE BEAR.

QUITTING the insectivora*, we now come to those races that are more or less decidedly carnivorous; that will prey upon animals of a larger size, or feast on carrion. Many unite to a sanguinary appetite the most cruel and unmitigated ferocity; while others exhibit little or nothing of the murderous instinct, except when goaded by hunger. Some also subsist exclusively on flesh, while many live almost entirely on vegetable diet.

The Bear belongs to this last section. Bears fly from all society, and are never apparently at rest, excepting in those wild and desolate abodes where nature appears in her rudest and most primeval form. An old cavern, among inaccessible rocks, or

* Animals that prey on insects.

a shelter formed by time, in the trunk of an aged tree, in the midst of a thick forest, serve them as an habitation. Thither they retire, each of them alone, and pass away part of the long and dismal Winter, without provisions, till the sun re-appears above the frozen mountains. Yet they are neither torpid, nor deprived of feeling, like the Dormouse and Marmot; they rather seem to sleep away a portion of their time, clothed in thick and valuable fur.



THE GRISLY BEAR, (*Ursus ferox*.)

The mountain haunts of these wild creatures are often sublimely beautiful and bold. Dobell observed their tracts in crossing a high mountain near Yamsk. The scenery was magnificent: the mountain on which he stood, formed with six others a large semi-circle, and afforded on one side an extensive sea



Tiger Hunt.

view ; on the other, hills, rivers, valleys, and forests, in perfect panorama ; and though mostly covered with snow, they presented an enchanting prospect, lighted with a brilliant sun, in an unclouded sky. Dobell was unarmed and alone, and as he prepared to descend to his tent, which looked like a small speck upon the snow, he observed with dismay the marks of a large bear upon the ground. It immediately occurred to him that the safest mode would be to return by the snow-covered side of the mountain, where the tracks would be easily seen, and where he could glide swiftly down the steep. This he did, and accomplished a descent in twenty minutes, over a space which cost him two hours to ascend. On relating this adventure to the natives, they said it was very dangerous to venture among those mountains in the Spring, when bare of snow, as the Bears often came from their dens to sun themselves upon the moss. These fierce creatures are likewise seen, occasionally, in the fastnesses of Unikan, the steepest and most tremendous of the Siberian mountains. Imagine, reader, rough, misshapen heaps, thrown up in such huge broken forms, that they can be compared only to a boisterous ocean ; or rather, figure to yourself a liquid earth, terribly agitated by a mighty tempest, with mountains for its waves, rearing their rocky, uncouth heads to the clouds, and then suddenly consolidated, and you may have some faint idea of the prospect from the giant brow of Unikan ; a prospect extending not merely round the base of the mountain, but to an immense distance, without a plain or valley to relieve the wearied eye. Yet even on the pin-

nacle of this terrific mountain, the beautiful yellow rhododendron spreads forth its petals to the sun, as if the Most High had fixed it there,—a perennial witness of His beneficence and love.

Bears are also very numerous in the forests and fastnesses of Kamtschatka, where they often subsist on fish. As the season advances, and the fish begin to leave the creeks and rivers, such Bears as are in good case, prepare their Winter beds, and retire in October, with the first fall of snow. The poor, thin ones, on the contrary, roam about till very late in the Autumn, and even make occasional excursions through the Winter. They are then very ferocious; and as their fur is thin, and themselves both lean and hungry, few, even of the boldest hunters, venture to attack them.

Those who visit the gloomy forests that cover the enormous volcano of Klutchee, in Kamtschatka, may hear the Bears' terrific voices in unison with its loud roaring; while on high its awful and flaming head appears above the tempest, which, during Winter, breaks with loud uproar against its giant sides.

Eternal snow the crater shrouds,
Whilst far beneath, a zone of clouds
Encircles wide his conic form,
Where beats the raging northern storm,
And dread-inspiring thunders roll
Hoarse murmurs to the distant pole.
But when the wintry storms, amain,
With fleecy pinions scour the plain,
And o'er his lofty surface steep,
And stately forests, wildly sweep,
His hoary sides aloud resound,
Spreading terrific echoes round;
And the shrill whistling of the wind
Starts from her bed the timid hind,

And breaks e'en drowsy Bruin's sleep ;
 While to their dens the scared wolves creep.
 The peasant, in his cot below,
 Shrinks at the drifting clouds of snow ;
 Each gust augments his rising fears :
 At night his troubled fancy hears
 The shrieks of fiends in upper air,
 Demons, who guide the whirlwinds there ;
 Swift mountain blasts impel with rage,
 And more than mortal combats wage !
 Yet, when from eastern portals blaze
 The ruddy morning's splendid rays,
 Sublime amid the tumult stands,
 With brow that nature's self commands,
 Bold Klutchee ; he, clad in pure white,
 Reflects the sunbeam's dazzling light,
 And smiles derision on the gale,
 That still infests the gloomy vale*.
 But most attractive to behold,
 His perfect and gigantic mould,
 Beneath the Summer's sun serene ;
 When forests, hills, and meadows green,
 Bloom forth in nature's best attire ;
 The cots, the herds, the village spire† ;
 Two winding rivers, clear and fleet,
 Mingling their waters at his feet ;
 All in romantic group unite
 To fill the soul with new delight !
 Contrasted with the frowning mien,
 How lovely then the rural scene,
 Surrounding thus, a magic robe,
 This mountain monarch of the globe.

No language can adequately describe the terror with which the shaggy dwellers in the forests of Unikan inspire the surrounding villagers, especially

* The natives know by the summit of Klutchee appearing bright above the clouds, that fine weather approaches, even though the storm should continue to rage on the plains.

† Two beautiful rivers meet at the base of this magnificent volcano ; the village of Klutchee, and its neat little church, is on the bank of one of these.

when assembled with their brethren to make excursions in the neighbouring districts, or

When through the piny forest, bending low,
Rough tent of these dark scenes, the shapeless Bear
With dangling ice, all horrid, stalks forlorn,
Slow-paced, and sourer, as the storms increase.

THOMSON.

Truly, the inhabitants have good reason for their fears, as instances frequently occur of Bears breaking off the roofs of cow-houses, and thus gaining access to the poor terrified animals, which they devour on the spot, or carry away, by dragging them through the aperture. We have also heard of one of these fierce creatures, which, after being desperately wounded, ran open-mouthed upon the man who fired: he, not knowing how to escape, took refuge behind a young tree; this the bear grasped in his arms, thinking that he had got his enemy; but, happily, his rage had blinded him, and he fell dead upon the ground, tearing up the tree by its roots in his fall.

The inhabitants of Grasse, in France, still remember with thankfulness and dismay the danger to which their children were exposed, while looking after some cattle in the forest. A large Bear suddenly dashed in among them, devoured a poor sheep in a few seconds, and then seized upon a well-grown heifer, with which he clambered over a strong fence of four or five feet, that surrounded the enclosure, and was soon lost sight of in the thicket. The terrified children then hastened as fast as possible to their village.

When either wounded, or impelled by hunger, the

Bear is a most tremendous animal. He is a fast swimmer, and moves with astonishing celerity on land, and, as he climbs well, there is no security even in high trees, the hunter's natural fortress. Nay, he can even walk with facility on his hind legs, and in that position, has been seen to carry the heaviest burdens. Mr. Wilson once saw a huge Bear trotting erect along a small tree, that had been thrown across a river, with a dead horse in his fore-paws.

Bears are long-lived, and attain to an enormous size: according to the best accounts, they continue growing till about their twentieth, and live until their fiftieth year. Four hundred and sixty pounds weight, is no unusual one for a Bear during the Winter months, when, in consequence of his stomach being contracted, he is probably much lighter than in Autumn: and we owe to Mr. Falk, the extraordinary fact, that one of these terrific animals was killed in a Scandinavian hunt, so huge and so portentous, that when slung upon a pole, ten strong men could with difficulty carry him to a short distance. He did not die tamely; for, after receiving numerous balls, he dashed into the crowd of hunters, and severely wounded several in succession. One of the men was bit in thirty-seven places and so seriously in the head, as to lay it open. Though the people gallantly endeavoured to stay the progress of this monster, he broke through all opposition, and was bounding towards his fastnesses, where no one would have dared to follow him, when a ball from an intrepid hunter laid him low. Though this Bear was of such a tremendous size, a celebrated hunter, one of Mr. Falk's under-keepers,

assured him that he had killed one still larger. His fat alone weighed an hundred weight, and his wrists, which in formation much resemble those of a human being, could not be grasped by the hunter's united hands.

Major Hamilton Smith, to whose researches in natural history the public are much indebted, made a drawing of a Bear at Buda, which appeared about forty years since on the shores of the Danube. This fierce creature was of a tremendous size, and had proved very destructive to the cattle; consequently every attempt was made to seize or to destroy him; but the largest shot appeared to take little effect. When hard pressed, he would swim to the other side of the Danube, and resume his depredations, till chased back again. In this manner he was hunted into Lower Hungary, having travelled most of the way by water. From Semlin, he was traced beyond Belgrade, but the Turkish peasants drove him back; and many months elapsed before he could be destroyed.

This fierce creature was most probably the Polar Bear, an animal equally distinguished for rapacity and strength. Barentz relates, that some of the species attacked his seamen at Nova Zembla, and devoured several, within sight of their companions. It is even said that they attempt to board armed vessels, and that it is sometimes difficult to repel them.

When out at sea, for they often make long voyages on thick masses of floating ice, their usual food consists of fish, seals, and the carcasses of whales; but when on land, they feed principally on deer, young

birds, and hares; and if hardly pressed, they can subsist on roots and berries. Yet few of the carnivora can equal, perhaps none exceed them in rapacity, when the means and power are both at hand. They are frequently seen in Greenland, in large droves, allured thither by the scent of seals; and are then so dreadfully voracious as to surround the dwellings of the natives.

How striking is the animosity which the dogs of Scandinavia, even such as are employed in drawing sledges, evince towards the shaggy inhabitants of their native forests. This instinct, mercifully implanted in these dogs, for the wisest purposes, is a means of often preserving the sleeping cottager from the irruption of these tremendous creatures!

Mr. Dobell relates, that, as his party approached the sea coast, not far from Toomanee, they observed that the sledge-dogs became uneasy, and began to snuff the air; when, in a moment, a large Bear crossed the road at full speed, and made towards a deep pine forest. Dobell's dogs being foremost, pursued him immediately, and soon came within shot. The first fire made him turn furiously upon the dogs, which became frightened, and began to bark. The other dogs then came up, and the Bear, not liking their appearance, made off through the wood at full gallop, though the snow was breast-high. The whole pack, amounting to seventy or eighty fine dogs, immediately gave chase in full cry; but while rushing on, some got entangled among the trees; others broke out of their harness; and a third set overturned their sledges. The skill and strength of the narrator's driver, a strong, athletic man, nearly

six feet high, alone kept his dogs clear of the trees, until within about a hundred yards of the Bear, who now laid down, overcome with fatigue. Two of the drivers, having guns, and being on snow-shoes, went within a safe distance, and tried to fire; but having fallen in the snow, the powder had become wet, and the guns would not go off. As Dobell was not provided with snow-shoes, his driver, and another man, assisted him to walk within shot of the Bear, who had now recovered his self-possession, and foaming with rage, waited only to recover breath in order to attack the young hunter before him. Happily, Dobell arrived at the moment when the huge animal had just raised himself upon his legs, and instantly a second fire laid him on his back. But even then the drivers, who well knew the nature of the creature, would not approach him till a third bullet had passed through his head. "For," said they, "a Bear is not to be trusted; as long as he has a spark of life in him, he will use his paws." As the flesh offered a grateful repast to the dogs, it was carefully separated from the bones, and placed on the sledges. While thus employed, one of the drivers extracted from the animal the iron head of an arrow, with a small piece of wood affixed to it. This proved to be one which he had set in the Bear's path, during the previous Autumn, for the natives place a bow and arrow, with a trigger affixed, and a string across the paths of these fierce creatures. The whole is so well adjusted, that when a passing Bruin touches the string, the arrow strikes him in the side, and often pierces the heart or lungs. He is then either killed on the spot, or receives such

a severe wound, that the hunters track him by his blood, and shoot him.

The females of the tribe are celebrated for the strength of their maternal feelings. They prepare a bed of moss and herbs for their young, in the securest part of some wild cavern; and if discovered by the hunters, will rush upon them with tremendous cries. On one occasion, when a she Bear heard the people advancing to her den, she drove her cubs, as is usually the case, either into the nearest tree, or some hollow of the rock, that they might be out of harm's way. This movement was discovered by the outcries of the cubs, who were apparently much alarmed at the seeming displeasure of the mother, who resorted to considerable violence in the accomplishment of her purpose. She then crept forth, and effected her retreat into the recesses of the forest.

The voice of the Bear is rather a deep murmuring than any distinct sound, and is often accompanied by a grinding of the teeth, especially if irritated. Even when domesticated, he is very susceptible of anger, and his disposition is extremely capricious: hence, though occasionally appearing tame, and even obedient to his master, the latter should always keep in mind the necessity of circumspection. These creatures may be taught to walk, to dance, and to perform various gesticulations,—nay, they will even listen to music, and observe some measure in their steps. But then, in order to inure them to this kind of education, they must be taken young, and restrained during life. An old Bear cannot be tamed, nor will he suffer constraint; and as he is

naturally intrepid, or at least indifferent to danger, he seldom turns aside, or flies from the sight of man. Yet it is alleged, that the sound of a whistle surprises and confounds him to such a degree, that he rises on his hind feet. The huntsman then levels his gun, but woe to him, if the shot does not take effect: the Bear feeling himself wounded, attacks his opponent, and suffocates him, if not prevented.

Here we may pause for a few moments, to remark the wonderful arrangement of Divine Providence in assigning this fierce creature to a portion of the globe where he is invaluable to the aborigines. Look at a map of the Polar regions. The rich pastures, which refresh the traveller as he journeys within the temperate zone, are there unknown. The cow, the sheep, the goat, all milk and wool-bearing animals, are foreign to the land. During Winter nothing meets the eye but mountains of thick-ribbed ice, wastes of untrodden snow, a sterile country, and interminable forests of dark pine. In Summer, a sudden vegetation may clothe the soil for a short time, but more generally the melting of the snow discovers dark masses of broken rock, or sterile soil.

It is true that the animal of which we speak is fierce and dangerous, but then the inhabitants well know how to entrap, or hunt him down. When taken, the flesh, though coarse, is valuable, and constitutes an important article of commerce: the skin is used for coverings of various kinds, and forms a comfortable Winter garment. The tendons, when split, make excellent thread. It seems that, in order to render his services more general, he is

endowed with a love of travelling. Hence in Summer he makes frequent excursions from one ice island to another, and is often seen at the distance of eighty miles from land. Mounted upon his icy car, he preys on the sleeping seals, and feeds as he floats along*.

THE TELEDU, (*Mydaus meliceps*.)

WHOEVER takes a comprehensive view of the animal creation, must frequently observe the extraordinary precision with which different species are assigned to different portions of the globe. He who fixes the bounds of our habitations, has also given to the inferior orders of creation their separate localities and haunts. Among those we have already noticed, some are appointed to the forests, and others to the plains; some inhabit the Arctic regions, others the groves of India and Japan; one is a citizen of the world; another, solitary and isolated, rarely wanders from his subterraneous dwelling. They each know their appointed stations, and never pass beyond the boundaries assigned them. We may further instance, as peculiarly illustrative of this remark, the Teledu, an animal exclusively confined, in Java, to those high mountains which lift their conical summits more than seven thousand feet above the level of the ocean. Those who traverse their lofty flanks can scarcely fail to meet with this interesting little

* Cuvier notices eight different species of this fierce brotherhood, two of which are American. The common European Bear, European Black, Black Bear of America, Arctic Bear, Grisly Bear, Long-lipped Bear, Malay Bear, and Thibet Bear.

mountaineer, whose peculiarities have rendered him familiar to the inhabitants of these elevated regions ; while to the lowlanders he is entirely unknown. In vain would the traveller inquire for the Teledu at Batavia, Samarang, or Surabaya. Sir Stamford Raffles informs us, that he uniformly met with him in his visits to the mountainous districts ; and, as far as the information of the natives can be relied on, he is found on all the points of highest elevation, though more abundant on those which, after reaching a certain height, consist of numerous connected horizontal ridges, than on such as terminate in a conical peak. Hence colonies are discovered on the mountain Prahū, and among the Tengger hills, while on the Gede, south of Batavia, on the Ungarang, south of Samarang, and along the Ijen, at the furthest eastern extremity, they are much less common.

Nor is it without sufficient reason that the Teledu selects these upland regions for his haunt. Most of the mountainous ridges furnish tracts of considerable extent, fitted for the cultivation of wheat and other European grains. Certain extra-tropical fruits are likewise raised with success. Peaches and strawberries grow in considerable abundance ; and the common culinary vegetables of our continent are cultivated to a great extent. To the European and Chinese a residence in these elevated regions is extremely desirable ; even the natives, who in general dislike a chilly atmosphere, attracted by the fertility of the soil, establish villages, and clear the ground for culture. They raise abundance of cabbages and potatoes, and

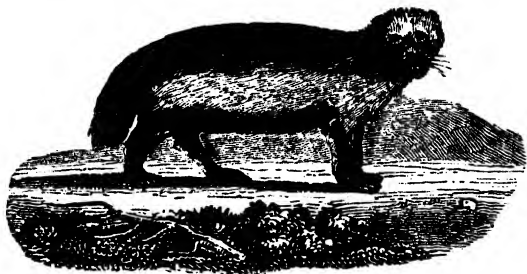
for these the inhabitants of the plains entirely depend on their upland neighbours. Extensive plantations of wheat, barley, rye, oats, and tobacco, are also found there, where rice, the universal product of the plains, refuses to grow. The farmer selects for their cultivation the deep vegetable mould where the Teledu holds his empire, as the most ancient proprietor of the soil. In his rambles in search of food, he enters the plantations, and destroys the roots of young plants. Among the lower ranges of the Tengger hills, especially, where the plantations are more extensive than in the higher regions, his visits are much dreaded by the inhabitants. He burrows in the same manner as a hog, and those who are abroad in the early morning, may trace his nocturnal labours in small ridges of mould recently turned up.

Yet it may be questioned, whether the labours of the Mydæus are not rather valuable, than injurious to the farmer. He diligently employs himself in seeking for insects and their larvæ, with the earth-worms, which abound in the vegetable mould.

GLUTTONS.

OF widely different habits are the Common and Masked Glutton, and the Grison of the colder regions of Europe and America. The Jamaica Taira, the Rattel of Southern Africa, and Nyentek of Java, are assigned to very different localities. These creatures prey upon small birds and quadrupeds, and generally affect woody and secluded scenes. Linnæus placed such as he knew among the Bears; but modern zoologists, considering that they ap-

proach more nearly to the Polecats, by their teeth, as well as their general character, and that they resemble the Bears only in their mode of watching for their prey, assign them a place between the Bears and the Polecats.



THE GLUTTON, (*Gulo vulgaris*.)

The most celebrated species of this genus is the Glutton of the north, the Rossomack of the Russians. He inhabits the coldest countries, is ferocious in his habits, hunts by night, does not sleep during Winter, and contrives to master the largest animals, by leaping downwards on them from a tree.

Such are the brief memoranda of this extraordinary animal, by Baron Cuvier.

The general abode, and manners of his relative, the Masked Glutton, which is larger than the common Polecat, are entirely unknown.

We are now arrived at the second tribe of the carnivorous family; active, enterprising animals, distinguished by the length and slenderness of their small bodies, by their quick movements, and cruel dispositions.

POLECATS.

THE common Polecat (*Putorius vulgaris*) is a complete freebooter. He roams about the fields, searching for the nests of partridges, larks, and quails, and climbing high trees, to storm the closely-woven citadels of the smaller birds. Rats, mice, and moles, also become his prey, and with the race of rabbits, he carries on perpetual and successful warfare. He unravels all the intricacies of their secret burrows, enters them single-handed, and has been known to exterminate a warren. In temperament and figure he closely resembles the rapacious Marten, and, like him, he fearlessly approaches our habitations, mounts the roof, or lurks in hay-lofts, barns, and unfrequented places, whence he issues in the silence and obscurity of night. Though originally natives of solitary woods, he prefers to reside in the neighbourhood of populous villages, because, though a freebooter in principle and practice, it suits him better to live on poultry, and storm the hive of the industrious bee, than to hunt for prey.

Yet, though preferring to find a quarry within reach, he is never at a loss. Should the snow descend in whirlwinds, and the frost lie thick upon the ground; should he even be driven from his usual haunts, he will repair to the bank of some peopled stream. There you may observe the traces of his small footsteps on the snow, and other marks which cannot at first be accounted for; but look more narrowly into the hole itself, and you will assuredly find the remains of eels; for those strange appear-

ances were occasioned by the struggles of the poor creatures to escape from their enemy. „

Some future naturalist may perhaps inquire, by what new arts this wily animal finds a booty apparently so difficult to obtain.

His Polish brother inhabits the southern parts of Russia, Asia Minor, and the coasts of the Caspian ; others of the same family reside along the banks of the northern rivers, at the Cape, and in Siberia.

It seems that the Ferret is a southern variety of the Polecat, though smaller, and always more lightly clad. He does not appear to be a native either of France or England, but to have been imported from the northern parts of Africa ; for, if lost in the Summer chase, he is generally supposed to perish during the severity of Winter. As we are enabled to turn his sanguinary inclinations and predatory habits to our own advantage, he is fostered and preserved by art, reared in boxes, and trained to the pursuit of rats and rabbits. His appearance suffices to drive out rats, the terrified tenants of old barns and out-houses, which are caught in purse-nets fixed before their holes, or, if they escape this snare, become exposed to the attacks of men and dogs without.

None of the mammalia tribes which have submitted to the yoke of man, are less easily domesticated. The Ferret never recognises, much less evinces the least affection for, his master : if he is called, he neither answers nor pays attention ; if caressed, he exhibits no gratification ; and if once so happy as to escape from confinement, never has the Ferret been

known, like many others, to re-enter the gates of his wired citadel. Time and habit, which act generally on the individual, or on the race of other domestic animals, never softens his unbending character; nor have his naturally good powers ever been applied to any other purpose than that of destroying the smaller quadrupeds.

THE COMMON WEASEL, (*Mustela vulgaris*.)

THE Common Weasel, unlike the Polecat, or the Marten, is useful to the farmer, and when half domesticated, is encouraged by him. During Winter he frequents his barns and out-houses, where he lives upon the rats and mice. In Summer he wanders to a distance, likes the neighbourhood of corn-fields, and sojourns wherever a colony of rats have fixed their temporary abode. Yet, though occasionally useful, his presence is frequently pernicious. He makes no distinction between his legitimate prey and the poultry of his master's yard.

Buffon represents this vivacious animal as utterly untameable, as wild, capricious, and unsusceptible of kindness. But the Countess of Nogan wrote him word from her castle of Mancelière, in Brittany, that he had injured the character of the Weasel, by alleging that no kindness could reclaim, or render him domestic; she having tried the experiment upon a young one, taken in her garden, which soon learned to recognise, and lick the hand that fed it, and became as familiar, frolicsome, and caressing, as a Dog or Squirrel. M. Giely de Monas confirms this statement. He also trained one of

these animals so completely, that it followed him wherever he went.

[THE STOAT, (*Putorius erminea*.)

THE Stoat, or Ermine, which resembles the Polecat in his predatory disposition, is very generally diffused, and is found in America, as well as throughout Europe and Asia. This animal exhibits in a very remarkable degree, a peculiarity, proper also to a few others: the upper coat is of a red brown colour during Summer, but this vanishes in Winter; it then becomes white, while the tip of the tail continues black. In the latter state he is called the Ermine; the fur is greatly esteemed, and in much request, particularly for ornamenting dresses of dignity and office.

But this extraordinary change is generally confined to such individuals as are met with in high latitudes, especially in Norway and Siberia; while the Stoat, which is common in England, is rarely found white, though seen occasionally, in Scotland, robed in a kind of intermediate fur, as if desirous, but unable, to assume a purely white coat.

It is surely well deserving the attention of the naturalist, to ascertain the cause, as well as the mode, by which this extraordinary effect is produced. We have sufficient data to conclude that it is the result of climate, as it is peculiar to such animals as inhabit the Polar regions: we know, also, that the new colour is produced together with a new coat or fur; but why the new fur should reflect rays differing from the old, has not been explained.

The natural historian has often to dwell on names,

which, in accordance with his duty, he is obliged to notice, and yet would willingly omit. This is the case with most of the race of Martens. Little difference, in fact, subsists between them; their history may be comprised in a sentence. Seven of the same rapacious family are recognised in different portions of the globe, independent of their transatlantic brethren. These are, the Siberian Weasel; the Water Polecat, called also the Smaller Otter, and common on the banks of rivers throughout a vast extent of country, from the Arctic Ocean to the Black Sea; the Cape Polecat or Zorilla; the Beech Marten, or la Fouine; the Common Marten, and Sable.

THE SABLE, (*Mustela zibellina*.)

THAT beautiful animal, the Sable, so much celebrated for the rich furs in which he is wrapped, and so admirably adapted to the cold regions of the farthest North, inhabits high frozen mountains. His capture, during Winter, and in the midst of eternal snow, is the most painful of human labours. In former times, the hunting of these animals was a task imposed on Siberian exiles; but as that country became populous, the Sables gradually retired into more lonely forests, and still higher mountains; yet even there, the unhappy exiles are constrained to follow them. We are told that, when about to proceed on this hazardous undertaking, they form themselves into troops of from five to forty each; if more numerous, they subdivide into lesser parties, and each chooses a leader: one chief directs the expedition. An interpreter, and a small covered boat, laden with provisions, accompany the separate

divisions, with a dog and net for every two men, and a vessel to bake their bread in. Thus equipped, the parties set forth on their assigned course. They ascend the rivers, and draw up their boats till arrived at the hunting-country, where they stop, erect their huts, and wait till the waters are frozen over, and the season commences. They then assemble, unite in prayer for success, and commence their arduous enterprise. The first Sable is uniformly dedicated to the church, as a thanksgiving.

More fully to appreciate the hardships to which these poor hunters are exposed, let us consider the general aspect of the country. High peaked mountains, capped with ice, are conspicuous on every side; the earth, covered with snow during nine months of the year, is extremely barren, and everywhere encumbered with unwholesome marshes, and impenetrable thickness; the native region of black Foxes, Sables, and Ermines, creatures invaluable to the inhabitants, as supplying both food and clothing.

There, through the prison of unbounded wilds,
Barr'd by the hand of nature from escape,
Wide roams the Russian exile. Nought around
Strikes his sad eye, but deserts lost in snow,
And heavy-loaded groves, and solid floods,
That stretch, athwart the solitary vast,
Their icy horrors to the frozen main;
And cheerless towns far distant, never bless'd,
Save when its annual course the caravan
Bends to the golden coast of rich Cathay,
With news of human kind. Yet there life glows:
Yet cherish'd there, beneath the shining waste,
The furry nations harbour; tipt with jet,
Fair Ermines, spotless as the snows they press;
Sables of glossy black, and dark embrown'd,
Or beauteous streak'd with many a mingled hue,
Thousands besides, the costly pride of courts.

Such of the Sable-hunters as penetrate into the woods, mark the trees, in order to retrace their steps. In their hunting-quarters they form huts, and bank up the snow around them. Near these they place traps, then advance further, and place others, still erecting huts as they go on, and returning from time to time, to take out and skin the game. While thus employed, they are supplied with provisions, which are brought on sledges from such magazines as they have formed on their route. When the Sables become scarce, the hunters trace them over the new-fallen snow to their holes, place nets at the entrance, and sometimes watch the coming out of the animals for two or three days. Thus circumstanced, these hapless exiles are frequently so pinched with hunger, that in order to alleviate its intolerable cravings, they tie two thin boards, one to the pit of the stomach, another to the back, drawing them together by cords placed at the end. Such are the hardships which our fellow-creatures undergo, to supply the wantonness of luxury.

When the season of the chase is over, the hunters re-assemble, to report the number of Sables they have taken, make complaints of offenders against their regulations, punish delinquents, and share the booty. They then continue at head-quarters till the rivers are clear of ice, when they return home, and give to every church the dedicated furs.

Concerning the specific instincts of the Sable, no particulars have reached us: it is merely known that the species sleep by day, hunt the smaller Weasels, Squirrels, and Hares, during the darkest

nights; that they feed, in the Winter, on birds; in Autumn; on berries; and that their fur is valuable.

THE OTTER, (*Lutra vulgaris*.)

FAR different is the dwelling of the Common Otter. He, rapacious creature, haunts the margin of rivers and fresh-water lakes, and preys on the finny occupants.

. Rapine and spoil
Haunt e'en the lowest deeps; seas have their sharks,
Rivers and ponds enclose the ravenous pike;
He, in his turn, becomes a prey;—on him
Th' amphibious Otter feasts.

. Nor spears
That bristle on his back, defend the perch
From his wide greedy jaws; nor burnish'd mail
The yellow carp; nor all his arts can save
Th' insinuating eel, that hides his head
Beneath the slimy mud; nor yet escapes
The crimson-spotted trout; the river's pride
And beauty of the stream.

The Otter, though able to continue beneath the water for a considerable length of time, is not decidedly amphibious; a fact now fully ascertained, by its being found drowned in the nets of the fishermen. When thus detained in pursuit of his finny prey, it is evident that he has anxiously endeavoured to cut through the meshes, in order to effect his escape, but that, his breath having failed him, he has lain down to die. Apparently of a contented temper, and satisfied with whatever nature may assign him, when his usual food, crabs, fishes, frogs, and water-rats, begin to fail, he cheerfully accepts the bark of aquatic trees, or the tender herbage of Spring. He is neither afraid of cold nor moisture, for he is

well defended with a thick surtout, to preserve him from the influence of either.

Gesner tells us, in his "History of Quadrupeds," that this sagacious animal ascends the rivers before he begins to fish, in order to swim down the current when loaded with his prey; that he floors his house to exclude the water, and lays by a store of provision in case of need; lastly, that he is easily tamed, and may be taught to fish for his master. This the Count de Buffon is unwilling to admit, and yet Gesner was a very accurate observer of the animal creation. "All I know concerning the Otter family," says the French naturalist, "is merely that they dwell contentedly in some hollow beneath the roots of poplars and willows, in the clefts of rocks, and even in piles of wood; that the heads and bones of fishes are found in their habitations, as well as soft twigs and herbs, for the couch of their little ones; that they often change their places of abode, and banish their young at the end of two months. That so far from being docile and confiding, they are naturally obdurate and cruel; more destructive in a fish-pond, than the most rapacious Polecat in a hen-roost."

Yet the fact of their domestication has been ascertained; and when thus withdrawn from their accustomed haunts, none are more confiding and affectionate. Bewick relates, as a well-known fact, that a person residing near Worcester had a tame Otter, who followed him wherever he went. One day, being taken out by his son to fish, as usual, he did not return at the accustomed signal, and was given up for lost. The father tried every means to

recover his favourite; he sought him in various directions, and at length happening to call near the place where he had been missed, the poor Otter crept forth, and evinced great affection on again discovering his master.

James Campbell, of Inverness, also had a young Otter that generally attended him; and, if called by his name, would immediately obey. As Dogs are hostile to his race, he was much afraid of them, and would run, on their approach, into his master's arms for security. He was employed in catching fish, and often captured eight or ten salmon in a day: when one was taken, he dived for another; but when tired, would refuse to fish any longer, and was rewarded with as much as he could devour. He then curled himself round, and fell asleep, in which state he was carried home. Hence the observation of the poet:—

Should chance within the Otter's house betray
The tender young, bear quick the prize away:
Tam'd by thy care, the useful broods shall join
The watery chase, and add their toils to thine;
From each close lurking hole shall force away,
And drive within thy nets the silver prey,
As the taught hound the timid Stag subdues,
And o'er the dewy plain the panting Hare pursues.

For this purpose they are also much used in India. The amiable Dr. Heber, bishop of Calcutta, says, "We passed, while sailing down the Ganges, to my surprise, a row of no less than nine or ten large and beautiful Otters, tethered with straw collars, and long strings, to bamboo stakes on the bank. Some were swimming about at the full extent of their strings, or lying half in and half out of the water; others

were rolling themselves in the sun on the sandy bank, uttering a shrill whistling noise, as if in play.



THE COMMON OTTER.

I was told that most of the fishermen in this neighbourhood kept one or more of these animals, who were almost as tame as dogs, and of great use in fishing; sometimes driving the shoals into the nets, and sometimes bringing out the larger fish with their teeth. I was much pleased and interested with the sight. It has always been a fancy of mine, that the poor creatures whom we often persecute to death, for no other cause than the gratification of our cruelty, might, by reasonable instruction, be made the sources of abundant amusement and advantage to us. The simple Hindoo shows here a

better taste and judgment, than half the Otter-hunting, and Badger-baiting gentry of England."

The COMMON OTTER is seen along the shores of European rivers. He avoids the banks of such streams as are covered with large stones, and those frequented either by men or dogs, which pursue him with unrelenting animosity, and would never permit him to continue, even for a day, in their vicinity. A smaller species is found in Poland, in the north of Europe, and in America, where it is called the Mynx.

The SEA OTTER (*L. marina*) has much in common with the River Otter. Vast numbers of the Sea Otter tribe inhabit the coast of Kamtschatka, the adjoining islands, and generally throughout the northern parts of the Pacific Ocean, where they are followed by the English and Russians, for the sake of their valuable furs, which are sold at a high price to the Japanese and Chinese.

The animals we are now describing have both the power and the will for carnage and devastation; but let us not suppose that the ferocious disposition of even these is inextinguishable. It is a common but false opinion, that ever thirsting for blood, and stimulated to fury by the mere sight of their prey, they are alike insensible to kindness, and punishment; and will resist, by the mere force of their ferocious instinct, such means as are successfully employed in taming others.

Such is the character of these fierce creatures, in their native haunts, in a state of uncontrolled freedom, abandoned to themselves, and thrown entirely on their own resources for support. Exclu-

sively of their sanguinary appetites, and the sentiment of self-preservation, surrounded, as they are, by victims or by enemies, their actions, perpetually tending to the acquisition of the first, or the removal of the second, must, consequently, be violent and cruel. Place them in different relations, and under other influences, and the case will then be altered. Commit them betimes to the care of man, and they will assume other habits; their destructive impulses will soften, their better feelings be developed, and they will submit with confidence to the voice of their benefactors.

It may be remarked, as a curious fact, that the larger species are more easily tamed than the small. Gifted with superior strength, they are also more intelligent. They possess a greater portion of that faculty which approximates to human reason, and less of blind instinct than their weaker and more diminutive brethren; instinct is inimical to education, and those animals in which its manifestations are frequent and surprising, are less susceptible of culture. The smallest have been tamed; but they retain, in their domesticated state, characters exclusively their own, and unquestionably derived from the peculiarities of their nature.

The Wolf, which will form the subject of our next notice, affords a striking proof of this interesting fact, and shows how much the character of carnivorous animals may vary, according to the circumstances under which it is developed.

Subjected, by the inscrutable appointment of the Creator, to the domination of sanguinary appetites; intelligent to discover, and powerful to enforce the

means of their gratification, we behold them, in a state of nature, attacking everything which has life, and spreading around both death and consternation. But as the animals which are their destined prey are endowed with activity to fly, sagacity to elude, and, not unfrequently, with strength and courage to resist, they in their turn must have the power of acting according to circumstances, and of accommodating themselves to different situations. They know when to employ force, and when to make use of stratagem; at what periods audacity will best serve their purpose, and when to assume the semblance of timidity. Yet place the most ferocious of these creatures where they have no sanguinary appetites to satisfy by violence,—no enemies to fear,—where they shall have benefits to receive, and security to enjoy, they will apparently change their very nature, and evince the kindest sentiments of confidence and affection.

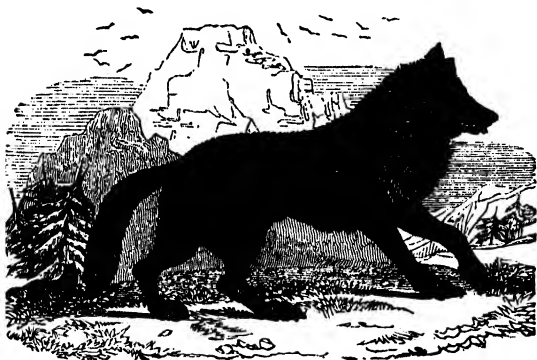
Experience confirms what reasoning might have led us to conclude. There is, perhaps, no carnivorous animal that may not be tamed by proper treatment, and which will not, to a certain degree, become affectionate and familiar. But this disposition varies in different species and individuals.

THE WOLF, (*Canis lupus*.)

THE Wolf is generally considered a ferocious creature. He is so in his native state, in the wild solitude of the desert; and yet this ferocious creature is singularly susceptible of affection.

The individual instanced by M. Cuvier, must undoubtedly have been of a very excellent nature.

Brought up like a dog, he became familiar with every one whom he was in the habit of seeing. He would follow his master wherever he went; seemed to grieve for his absence, was obedient to his voice, invariably evinced the most entire submission, and, in fact, resembled the tamest of domestic dogs. His master, being obliged to travel, made a present of him to the Royal Menagerie at



THE BLACK WOLF.

Paris. Here, shut up in his compartment, the faithful creature remained for many weeks, without exhibiting the least gaiety, and almost without eating. He, however, gradually recovered his spirits, became attached to his keepers, and seemed to have forgotten the object of his former regard, when his master returned, after an absence of eighteen months. The Wolf, who did not see him in the crowd, instantly knew his voice, and evinced the greatest delight by

his motions and his cries. Being set at liberty, he overwhelmed his lost friend with caresses, just as the most attached dog would have done after the separation of a few days. Unhappily his master was obliged to quit him a second time, and this separation was again, to the poor Wolf, a source of poignant affliction. But time allayed his grief. Three years elapsed, and he continued to live very comfortably with a young dog for his companion. After this space of time, sufficient to occasion forgetfulness in the breast of any quadruped except that of Ulysses, the gentleman again returned. It was evening; all was shut up, and the eyes of the animal could be of no use to him; but the voice of his beloved master was not effaced from his memory; the moment he heard, he knew it. He answered by cries, indicative of the utmost impatience; and when the obstacle which separated them was removed, his cries redoubled; he rushed forward, placed his two fore-feet on the shoulders of his friend, licked his face, and threatened with his teeth his very keepers, who approached, and to whom, an instant before, he had been testifying the warmest affection. Such an enjoyment, as might be expected, was succeeded by the most cruel pain to the poor animal. Separation again was necessary, and, from that instant, the Wolf became sad and immovable; he refused all sustenance; pined away, and his hairs bristled up, as is usual with such animals when sick. At the end of eight days he was scarcely to be known as the same, and there was every reason to apprehend his death. His health, however, became re-established; he resumed his good condition of body, and brilliant

coat: his keeper could again approach him, but he would not endure the caresses of any other person; and he answered strangers by nothing but menaces.

Such is the recital of a scientific naturalist; himself an eye-witness of the facts which he relates. It is the narrative, not of an ignorant exhibitor, or credulous traveller, but of a philosopher, not less distinguished for his patient habits of observation and comparison, than for the soundness and calmness of his general deductions. We should not be justified in refusing to give it the most implicit credit, however little it may agree with the popular notions concerning the disposition of the Wolf, and the reports of travellers. But this species has hitherto been known only in its wild state, surrounded with enemies, and in the midst of danger; among which no feelings could be developed but those of fear, hatred, and distrust. Certain it is, that dogs, suffered to run wild in the woods from their birth, become just as savage and ferocious as Wolves, and yet we cannot suppose that they are so essentially. Most true it is, that to acquire a complete knowledge of the character of a species, of its real intellectual qualities, it must be seen under every circumstance adapted for their manifestation.

Extraordinary as the feelings which we have been describing, may appear in this fierce animal, the germ of them is readily discoverable in the attachment which young Wolves exhibit to each other, and in the tenderness of the mother for her young.

Other instances might be cited; but one, from the Royal Menagerie of France, shall suffice. In the year 1800, a she Wolf, which had been recently

captured, was completely domesticated, and lived familiarly among the Dogs. Nay, she was so weaned from her wild propensities, that the finest poultry were allowed to pass, without an endeavour, on her part, to seize them as her victims: she would bark like her new associates, and might be suffered with impunity to enjoy the utmost freedom.

Yet, notwithstanding these milder traits, it must candidly be acknowledged, that the Wolf exhibits, in his wild state, none of these endearing characteristics. Surrounded by enemies, and living in fear and distrust, he is gloomy and brutal. In the gray of morning, and at the approach of evening during the fine nights of Summer, or in the most sombre Winter days, he stalks forth in search of food, which, in cultivated countries, is rarely to be found in abundance. It consists, for the most part, of the dead remains of domestic animals; and in thinly-wooded tracts, of frogs, field-mice, and other of the smaller occupants. In large forests, where game is more abundant, and the neighbouring population thinner, this rapacious creature becomes much bolder, and his frame exhibits greater energy and elasticity. During the Winter, he retires to the recesses of lofty woods, in the neighbourhood of inhabited places; in the Summer he keeps the open fields, concealed amid ears of corn.

The inroads of this creature are dreaded by the peasants, for he is fond of human flesh; and, when once accustomed to it, will attack the unarmed traveller; prefer the shepherd to his flock, and carry off women and children. Wolves of this vicious disposition are distinguished, in France, by a term

of reproach. They follow the route of armies, and repair in troops to fields of battle, where they disinter the dead, or prey on such unhappy beings as are unable to defend themselves.

By wintry famine roused, from all the tract
Of horrid mountains which the shining Alps
And wavy Apennines, and Pyrenees,
Branch out stupendous, into distant lands,
Cruel as death, and hungry as the grave!
Thirsting for blood! bony, and gaunt, and grim!
Assembling Wolves, in raging troops, descend;
And, pouring o'er the country, bear along,
Keen as the north wind sweeps the glossy snow;—
All is their prize. They fasten on the steed;
Nor can the bull his awful front defend,
Or shake the murdering savages away.
Rapacious at the mother's throat they fly,
And tear the screaming infant from her breast!
The god-like face of man avails him nought.
Even beauty, form divine! at whose bright glance
The generous lion stands in softened gaze,
Here bleeds a hapless, undistinguished prey.
But if apprised of the severe attack,
The country be shut up, lured by the scent
Of church-yards drear, (inhuman to relate,)
The disappointed prowlers fall, and dig
The shrouded body from the grave; o'er which,
Mixed with foul shades and frighted ghosts, they howl.
THOMSON.

It is a trite remark, that we read details of battles, in which thousands have fallen, with little emotion, while individual griefs powerfully affect us. The same remark holds good with regard to any general catastrophe; and why is this? Because we cannot realize the horrors attendant on such scenes. Private sorrow comes home to our own hearts; we remember those who are in adversity, as being ourselves the

children of affliction. The following anecdote may illustraté the truth of this position.

The father of Maria ——— was rich only in virtues: he left no inheritance to his daughter but some old furniture, and a little cottagè situated on the skirts of a deep wood. Maria retired with her brother to this wild asylum: she had neither relations nor friends, and was soon reduced to abject poverty. Some neighbouring husbandmen would have employed her to keep their geese and sheep, but her tender attachment to her brother prevented her from accepting the office; and she determined to endure any hardship rather than to abandon him.

In this urgent necessity she sold some linen and other articles; purchased flax, and employed herself in spinning, sewing, and knitting alternately. As she was not less active than skilful, she thus provided for her support, and preserved her independence.

Activity, industry, and virtue, naturally command esteem. A girl of twelve years old, living alone in a poor cottage, maintaining herself, and taking care of an infant brother, was a sight equally rare and affecting. Accordingly, her reputation spread abroad; mothers brought their children to profit by her example; and plenty, the ordinary fruit of industry and activity, soon began to reign in the cottage of Maria. She even found herself able to engage a good old woman to live with her, who managed her little household, and attended her brother, whilst she went to carry her work to the neighbouring villages.

Thus tranquilly, and surrounded by plenty, did

Maria pass her days, when as Winter drew on, troops of hungry Wolves began to lay the country waste. They wandered through the fields in herds, boldly entered the towns, and even unarmed men became their victims. One morning, as the amiable girl was employed in drawing bread from the oven, a she Wolf, followed by five cubs, burst into the room. She immediately seized a knotty stick, and defended herself with great courage. In this she would have succeeded, had she thought only of her own safety; but, while she was dealing violent blows to the savage beast, she perceived a second enemy advancing towards her brother. Uttering a cry of terror, she seized the child, opened a closet, and placed him under cover from all danger; but whilst the courageous girl supported herself with one hand, and endeavoured with the other to repulse the voracious animals, the furious Wolf sprung at her throat, and instantly suffocated her. The poor old woman, flying in dismay to obtain assistance, was also seized and torn in pieces.

Thus died, in her fifteenth year, this exemplary young person, who so well deserved a better fate. Her brother was living in 1796, and from him these interesting particulars were obtained.

Whole nations have armed in order to repel the attacks of these ferocious animals; and princes have gone out to this laudable and necessary kind of war.

In the first ages of society especially, or when the fiercer animals dispute with man the possession of an unsettled country, a successful war against these savages is equally heroic and beneficial. By exploits

of the same nature, by the defeat of the Nemæan Lion, and the slaughter of the Boar of Erymanthus, the Grecian Hercules acquired a place among the Pagan deities, and grateful memory among the men of old.

Bloodhounds and greyhounds are generally used in the chase of Wolves; but even these require encouraging, for dogs of all descriptions have an aversion to the Wolf, and pursue him with reluctance. On the open plain he is run down without much difficulty, but where the country is covered with woods, it is difficult to destroy him. Then the hunters, attended by fierce mastiffs, beat the bushes, lay snares and baits, dig pits, and scatter poisoned pieces of meat; but all their contrivances are frequently practised in vain. In uncultivated countries, these animals appear scarcely to decrease.

They arrive at their full growth in two or three years, and live fifteen or twenty. When old they become gray. They are so fleet and strong, that they will carry off a sheep, while they outrun the shepherd; and hence they can only be deprived of their prey by swift dogs. Their bite is cruel and obstinate, in proportion to the degree of resistance they meet with; for when an animal can defend itself, they are circumspect and cautious. Necessity alone compels them to the battle; they prefer gaining their ends by subtilty and fraud.

The Wolf is stated by naturalists to be much hardier, less intelligent, and more robust than the dog. He roams about whole days and nights, and yet, though ferocious, is so remarkably timid, that when he falls into a snare, he may either be killed,

or taken alive without resistance. He then allows himself to be muzzled, and led off in triumph. His senses are acute, especially that of smelling, which to him is more important than even the organ of sight. By means of this, he can discover a dead body at the distance of a league; and he pursues such animals as become his prey through woods and streamlets, commons and hedge-rows covered with odoriferous plants, which might be supposed sufficient to disturb, if not dispel the scent. When about to commence foraging, he rests for a moment on the skirts of the forest, which is his general abode, snuffs on all sides, as if to discover whether that rapid carrier, the wind, has brought intelligence of any living or dead victims, and then steals away to circumvent the one, or bear off the other.

This rapacious animal generally inhabits the temperate and cold regions of the globe, though gradually disappearing from the more thickly peopled parts. How numerous they once were in Britain may be presumed from the laws of King Edgar, who endeavoured to extirpate them, by allowing certain criminals to commute their crimes by the payment of a number of Wolves' tongues. In Wales the same was attempted, by converting the tax of gold and silver into an annual tribute of three hundred Wolves' heads. Succeeding kings promoted their destruction; and certain lands were holden, according to the historian Camden, on condition that their owners should destroy such Wolves as infested the neighbourhood.

In the less inhabited parts of America, they are

said to go in droves, and to hunt the deer, and other animals; with hideous howlings, like fierce dogs. It is asserted that they will even attack the buffalo. When reduced to the extremity of hunger, they swallow quantities of mud, apparently to allay the uneasy sensations of their stomachs. The Swedes destroy great numbers by leaving near their haunts the carcass of a sheep, or other animal, stuffed with a species of lichen or tree moss, (*Lichen vulpinus*), and mixed with pounded glass; this is considered as a certain poison to the Wolf, and, if we may judge by the name, to the fox also. The lichen is of a filamentous or stringy form, branched and yellow, and hangs from the trunks of trees, old wooden roofs, and walls.

Wolves, like their shaggy brethren, the bears, sometimes mount the ice, in order to prey on sleeping seals. But these adventures frequently prove fatal; for the ice, when detached from the shore, is often driven out to sea, by a sudden gust of wind, before they are sensible of the motion. Northern historians relate that whole districts have sometimes been thus delivered from these pernicious creatures, whose dreadful howlings, heard far off at sea, announced the welcome news to the rejoicing inhabitants*.

These animals frequently abound in the most desolate places of the earth. Carmel, the once magnificent Carmel, concerning which it was declared, that, in common with the cities of Judæa, it

* Cuvier notices five species of this fierce genus:—the Common, Black, Antarctic, Red, and Crab. The two last are American.

should be wasted, without inhabitant, till the land was utterly desolate, is now the dwelling-place of wolves, lions, and hyænas: and how mournfully in unison with its savage occupants! From the centre of the neighbouring elevations, a wild, rugged, mountainous desert, extends as far as the eye can reach; no herds depasture on the plains; no forests clothe the acclivities; no water flows through the valleys! but one rude scene of savage melancholy waste is everywhere perceptible, in the midst of which the ancient glory of Judæa bows her head in widowed desolation.

THE CHACAL, (*Canis aureus*.)

THE Chacal, or Jackal, is widely extended throughout the warmer regions of the ancient world. He is found in Africa, from Barbary to the Cape of Good Hope; in Syria, Persia, and the whole of Southern Asia. He is not less common on the frontiers of Sahara, than on the confines of Senegal; in the mountains of Abyssinia, than on the shores of the Persian Gulf. It would seem that this species has received the faculty of modifying and conforming itself to circumstances in a more particular degree than others, as if designed to perform a more extensive part in its destined occupation.

Lions, and tigers, and some other carnivorous beasts, disdain to touch any except living prey, unless, indeed, in the extremity of hunger; but the Chacal seems to partake, with the vulture and the hyæna, the obvious office of ridding the countries in

which they live, of the remains of such animals as otherwise would poison the atmosphere during their decomposition.

These creatures hunt in packs, "making night hideous;" at which time their cries are unspeakably wild and dismal. Their dreadful yells alarm, and put to flight, deer, antelopes, and other timid quadrupeds, while the lion, instinctively attending to the clamour, is said to follow till the prey is hunted down, which he then unceremoniously makes his own. Hence the Chacal has been termed the lion's provider; and should a traveller or hunter find the fresh carcass of a bullock or deer, with this creature feeding on his remains, they know that the tyrant of the forest has withdrawn. Should the smaller animals be looking on, and walking round and round, as if desiring, yet afraid to draw near, they prepare immediately for flight, or else to encounter a formidable enemy. Travellers, consequently, never pass unarmed through the countries they frequent; not so much from fear of the animals themselves, as of their formidable attendants. Bishop Heber mentions them, as seen occasionally on the wild and forest-like plains of the Tandah, amid the deep solitudes of its primeval forests, and on the verge of those delightful valleys, with woody mountains, where the inhabitants of the Kemroon, a peaceful and honest race, graze their cattle, and cultivate the best and driest spots with wheat and barley. "It was curious," he said, "to see how carefully the collector of the district loaded his gun, whenever a Jackal crossed his path." But happily the precaution was unnecessary; and our travellers

journeyed peacefully and pleasantly till they came to a tract where the fires had already been active in clearing the jungle, and where little huts, and herds of diminutive cattle were seen peeping out from beneath the trees, and the advanced guard of the caravan appeared in sight.

We cannot dismiss this portion of our subject, without again adverting to those lugubrious cries which are thus noticed in the following beautiful and affecting lines. They were written in the East Indies, at a time when the author was near his end, from the fatal effect of a *coup de soleil*.

TO AN INDIAN GOLD COIN.

Slave of the dark and dirty mine,
 What vanity has brought thee here ?
 How can I bear to see thee shine
 So bright, whom I have bought so dear !
 The tent-ropes flapping lone I hear,
 For twilight converse arm in arm.
 The Chacal's shriek bursts on mine ear,
 When mirth and music went to charm.'

By Cheral's dark, wandering streams,
 Where cane-tufts shadow all the wild,
 Sweet visions haunt my waking dreams,
 Of Teviot, loved while yet a child,
 Of castled rocks, stupendous piled,
 By Esk, on Eden's classic wave ;
 There loves of youth and friendship smiled
 Uncursed by thee, vile yellow slave !

Slave of the mine ! thy yellow light
 Is baneful, as the tomb-fire drear.
 A gentle vision comes by night,
 My lone deserted heart to cheer.
 Dim are those eyes with many a tear,

That once were guiding stars to mine;
That fond heart beats with many a fear:
I cannot bear to see thee shine
So bright, whom I have bought so dear!

For thee, for thee, vile yellow slave,
I left a heart that loved me true,
And crossed the tedious ocean wave,
To roam in lands unkind and new.
The bleak wind of the stranger blew
Chill on the withered heart!—the grave,
Dark and untimely, met my view!
And all for thee, vile yellow slave!

And com'st thou now so late to mock
A banished wand'rer's hopes forlorn?
Now that his frame the lightning's shock
Of sun-rays tipt with death, has borne
From friends, from home, from country torn!
To memory's fond regrets the prey.
Vile slave, thy yellow dress I scorn!
Go mix thee with thy kindred clay.

Yet the cries of the Chacal are to the highest degree enlivening, when heard at noon; and only pensive and melancholy when all is hushed to repose; when the murmur of the wind, or the rushing sound of remote torrents come at intervals upon the ear, sounding from out the solitude of dismantled ruins, or the depth of ancient woods. It is from association alone that he derives his power of awakening, in conjunction with his companion, the night-hawk, sensations of deep melancholy. At other seasons, he rather disposes the heart to cheerfulness than gloom. Bishop Heber noticed the cries of these animals, while coasting up the Ganges. As he sailed along, they grew loud and incessant, and so nearly resembled the voice of children at play, that it was scarcely possible at first to ascribe them

to any other source. This is beautifully referred to in an exquisite little poem, entitled, "An Evening Walk in Bengal."

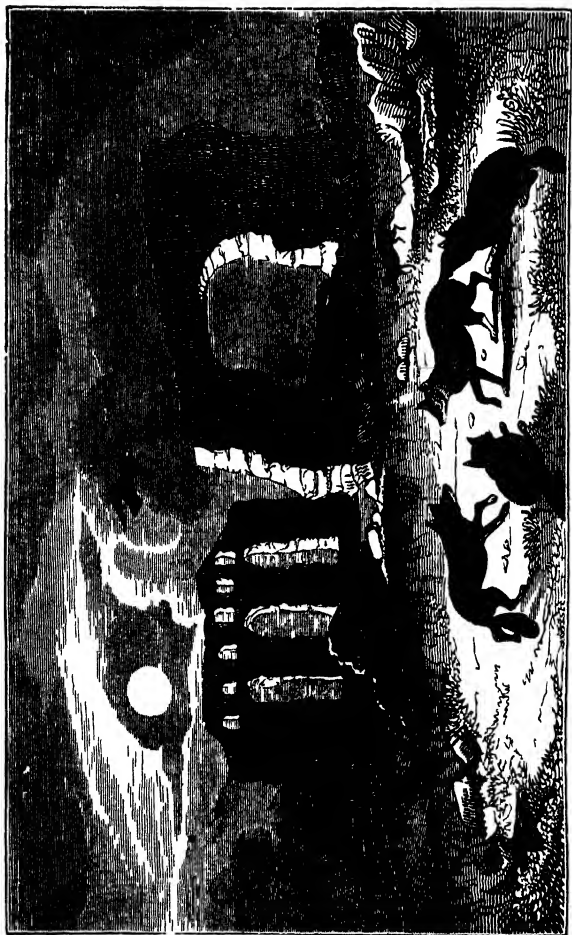
So rich a shade, so deep a sod,
Our English fairies never trod !
Yet, who in Indian bower has stood,
But thought of England's good green-wood,
And breathed a prayer, (how oft in vain,)
To gaze upon her oaks again !
A truce to thought,—the Jackal's cry
Resounds like sylvan revelry,
While through the trees yon parting ray
Will scarcely seem to guide our way.

HEBER.

All travellers who have visited the native regions of the Chacal, agree in mentioning the ravages occasioned by his voracity; and his predilection for the most solitary and deeply retired scenes, gloomy forests, and deserted places. "What a scene of desolation!" said a celebrated traveller, when surveying the ruins of Ephesus. "It is a solemn and most forlorn spot; and at night, when the mournful cry of the Jackal is heard on the mountains, and the night-hawk, and shrill owl, named from its note, cucavi, are flitting around the ruins, the scene awakens the deepest sensations of melancholy." It is farther said, that these animals live in troops, inhabit burrows, and disinter dead bodies; and that, when impelled by hunger, they even become dangerous to man. Yet the Chacal may be tamed with tolerable facility, though naturally timid, and hastening to conceal himself on hearing the slightest unusual sound, or seeing any strange person. His fear, too, has a character different from that of other wild animals.

In them it is merely a sentiment of self-preservation, the result of some apparent danger, acting as a stimulus to flight, or to resistance when the former has become impossible. The Chacal, on the contrary, flies when he is approached, like a dog that fears the chastisement of his master; but the moment you reach him, he neither attempts to resist or injure; he will even suffer himself to be caressed. This apparent contradiction seems the result of a natural instinct, which impels him to distrust every strange species, and of his acquired knowledge, which has taught him that there is no real danger. This state is probably the nearest to one of perfect tameness. Many animals that do not fly the presence of man, will not allow themselves to be touched; others will receive caresses only from those who minister to their wants. But it is rare to see an instance of one who will fly, and yet suffer himself to be handled with impunity.

The Jackal is supposed to be mentioned in Holy Writ under the appellation of Fox; for the real fox is very rare in Judæa, and was not probably the animal thus named in our translation. All that is necessary to salvation is clearly made known, and ably conveyed to us in our own language, by the most learned men; but modern travels have thrown great light on the natural history of the Bible. The pupils of Linnæus, who explored Egypt and the East, brought home many interesting particulars relative to this department; and we owe to Clarke, Burckhardt, and Raffles, with other equally enterprising travellers, much new and original information.



How numerous the Jackals were in ancient times may be learned from the antiquated narrative of Busbequius, who informs us that, in a city of Asia, he heard, amid the darkness of night, "a mighty noise, as it had been of men who mocked. He asked what the matter was, and was answered, that it was only the howlings of certain beasts, of a sort of wolves, somewhat bigger than foxes, and greedy and devouring as the most ravenous beast of prey. These go in flocks, and though they rarely hurt a living man, yet they get their food rather by craft and stealth, than open force." Hence the Turks denominate subtile and crafty persons by the metaphorical denomination of Jackals. The famous Herbert further states, that, at Gambroon, he was greatly annoyed by ferocious troops of Jackals, which entered the town, and assailed even the burying-grounds, by tearing out the dead; "uttering at the same time offensive noises, and echoing out their sacrilege. Some sport we had in hunting them with swords, dogs, and lances; but we found them too many to be conquered, too unruly to be banished, too daring to be affrighted." Such were their numbers and predacious habits, as related by travellers of the olden times. We should now dismiss them, and pass on to others of the rapacious brotherhood, were it not that the mention of the Jackal brings to our remembrance the bitter scoffing of Tobiah, the Ammonite, and is thus associated with one of the most important periods of Jewish history.

After the prophet Nehemiah had incited the Jews to build the walls of Jerusalem, in spite of their

enemies, we are told,—“Now Tobiah the Ammonite was by*him, and he said, Even that which they build, if a fox (Jackal) go up, he shall even break down their stone wall*.”

As if he would say, “The city-wall of these captives is at most like the loose, unmortared, stone fences which surround our gardens; if a Jackal should venture to run along it, he would ruin the whole structure; or, if he clambers upon it, down it will go:” thus endeavouring to set forth the utter impossibility of Nehemiah being able to complete his favourite project. Truly it might seem so in the sight of man; but the Lord had decreed the restoration of his disobedient people to their beloved city; and that which He commands, none may disannul.

We have already had occasion to remark that the manners and customs of the East have changed little in the course of years. To take the Jackals, the little Jackals that spoil the vines, when the vines had tender grapes, was a wise precaution in the days of Solomon; and still the same injunction is often necessary at the season when young grapes begin to give the assurance of an abundant vintage. These animals are very numerous in the Wilderness of Judæa; vines are also plentiful about the convent of St. John; and there the monks set nightly watchers in the gardens, to prevent them from being rooted up by prowling Jackals.

How very melancholy and impressive is the simile of the prophet Ezekiel, when referring to the habits

* Nehemiah iv. 3.—

of these wild creatures, and the desolate places which they usually inhabit.

“O Israel, thy prophets are like the foxes (Jackals) in the desert: Ye have not gone up into the gaps, neither made up the hedge for the house of Israel to stand in the battle in the day of the Lord*.”

Or, as the author of *Fragments illustrative of the Holy Scriptures*, thus freely and beautifully renders these prophetic verses:—

“As Jackals, in wastes around deserted towns, are thy prophets, O Israel. They continue to destroy; but not to build up; they clamber over fences broken down, and increase dilapidations in stone walls; but they restore no part of their strength; they do not go up into the gaps to repair them, nor bring fresh stones to replace those that are fallen, to make walls for the security of the house of Israel, that it may stand even a skirmish, much less an assault, in the day of the Lord.”

THE FOX, (*Vulpes vulgaris*.)

THE common Fox is equally distinguished for agility and craft: what the wolf and chacal achieve by force, he effects by artifice: and often with more success. Without combating the shepherd or his dog, attacking their sheep, or digging up the bodies of the dead, he is still more certain of procuring food. Acute as well as circumspect, ingenious and patient, he changes his plans perpetually, and has always some expedient in store for sudden emergencies. He is also remarkably vigilant and careful of his safety. Though equally indefatigable, and

* Ezek. xiii. 4, 5.

even more nimble than the wolf, he does not entirely trust to the swiftness of his course. He knows how to ensure his safety by providing himself with an asylum, whither he retires from pressing danger, and where he also generally resides and brings up his young; for he is not naturally a vagabond, but leads a settled domestic life.

This trait of character indicates a marked attention to self. The choice of situation, the art of making and rendering an abode commodious, and of concealing the avenues, implies a superior degree of intelligence. The Fox is eminently endowed with this faculty. When he purposes to establish himself in a neighbourhood, he visits every part of it, fathoms the extent of every excavation, and carefully examines such as seem to promise a safe asylum in the hour of danger: having ascertained these important points, he tranquilly lies down to enjoy the pleasures of repose. A repose thus guarded and secured, is the only one that his timidity will permit him to possess; for, naturally suspicious, every new object is to him a source of distrust and inquietude. He is uneasy till he has discovered what it is, and approaches, for the purpose of observation, with hesitating steps, and by indirect and circuitous paths. And hence, whenever he has reason to suspect that the neighbourhood is no longer tenable, he betakes himself to flight, and seeks in some other retreat that security of which he is deprived. He passes the day in his hiding-place, and sallies forth in search of prey only during the obscurity of twilight.

In England his lurking-place is often on the border of a wood or in the neighbourhood of cot-

tages. There he listens to the crowing of the cock, or the cries of the poultry; and guided with equal certainty by the sense of smelling as of sight, he glides along the trenches of the fields, to surprise the partridge on her nest, or the rabbit within her form. Sometimes he lies in ambush, near the burrows of the rabbits, into which he penetrates with his accustomed assurance; and sometimes with a cry like that of a dog, he gives them chase over the open plain. When game of this description fails, he contents himself with field-mice, frogs, snails, and grasshoppers. In cultivated and thickly-peopled countries, he finds new resources; he then approaches the habitations of men, collects the refuse provisions, penetrates into the poultry-yard, and, during Autumn, enters the vineyard to collect the rich pendent clusters. But he does not limit himself to appease the cravings of the moment: when he invades the poultry-yard, he devours all he can, and conceals the rest. Nor is this all: he rises early, even before the wakeful labourer is abroad, and visits the nets and lime-twigs that have been set for small birds, carries off the victims, and lays them beside the furrows, or under the green herbage and brush-wood. These are his larder, and there he often leaves them, like a prudent housekeeper, to serve his necessities at another time. He also watches the little birds, as they flit along the hedge, and seizes them when off their guard. But they have such an aversion to this subtle foe, that as soon as they perceive him, they send forth soft, shrill cries, to apprize their neighbours of the enemy's approach. Jays and blackbirds, especially, have

been seen to follow the Fox from tree to tree, and from one hedge-row to another, uttering their watch-cries.

Thus crafty, and ever vigilant, the Fox is difficult to be destroyed or taken. As soon as he has acquired a little experience, he is not to be deceived by the snares that are laid for him: and from the moment he recognises them, not even the severest pangs of hunger can throw him off his guard. Le Roi assures us that he has known a Fox to remain fifteen days in his subterraneous dwelling, in order to avoid the snares laid for him.

But this timid prudence entirely disappears in the female, when surrounded with domestic cares. The maternal feeling, which in every species is probably the strongest, affects, in the instance now before us, even the general habits of the creature. No other sentiment is indeed so completely disinterested; there is none in which the sacrifice of self is so instantaneous and complete. A mother will not hesitate to endure the utmost privations, to brave the most appalling danger, nay, even to encounter death itself, for the preservation of her infant charge. She, that a little before, was all gentleness and shrinking timidity, who could not "bear the winds of heaven to visit her face too roughly," becomes on the sudden, bold, fierce, and resolute, unshaken by all that is trying, and constant amidst all that is revolting.

This beautiful feeling is not confined to the human race; it extends even to the lower orders of creation. The female Fox watches incessantly over her young, provides for all their wants with unwearied

assiduity, and exhibits an audacity very foreign to her general disposition. This is her redeeming quality—a set-off against the natural wiliness and rapacity of her disposition. But has she no other? Yes; her pursuits, though occasionally pernicious, are beneficial to the farmer. When poultry, young hares, and partridges begin to fail she makes excursions with her partner, on the croaking tenants of the marshes, as well as on rats, field-mice, lizards, and serpents, and in so doing they render an important benefit to mankind. Besides, their Winter skins are valuable, and supply warm garments to the shivering nations of the Arctic regions: to whom their flesh also affords a graceful change of food.

The method of hunting this sagacious animal is well known, as also the subterfuges by which he endeavours to baffle his pursuers. His chase is a favourite amusement with Englishmen; but it may be questioned, whether thus to torment a defenceless creature is either generous or humane; more especially as he may be readily taken in traps, or pitfalls, or by placing in his way a snare baited with a fowl. Buffon tells us that he once suspended to a tree some meat and bread, at the height of about nine feet. Several of the crafty brotherhood were attracted to the spot, and had severe exercise through the night, for next morning the earth was beaten by their jumping as smooth as a barn-floor. Had the same naturalist suspended eggs, milk, cheese, fruit, and especially grapes, their avidity would have been equally excited. Scarcely anything comes amiss to

them. They are even so fond of honey, that they will attack the nest of wild bees, wasps, and hornets. Alarmed by this impertinent intrusion, the enraged insects issue forth, and, on discovering the quality of their antagonist, proceed to pierce him with a thousand stings. At first he runs away, for the purpose of rolling on the ground, to crush them, but he soon returns, and repeats his aggressions so frequently, that he obliges them to abandon their retreat, which he uncovers, and then devours both the honey and the wax. In short he is a crafty and sagacious creature, mindful of the future, and ever vigilant to benefit himself.

The senses of this crafty creature, like those of his rapacious brother, the Wolf, are remarkably acute, but his feelings are more delicate, and the organs of his voice more flexible. The wolf sends forth only frightful howlings, but the Fox barks, yelps, and utters a mournful cry, like that of a peacock. He varies his tones according to the feelings of the moment: one is peculiar to the chase: another is that of complaint and sorrow; a third expresses the extremity of suffering; but this he utters only when he is shot, or has some of his members broken. On other occasions, he is silent, and may be killed with a bludgeon, like the wolf, without complaining, though he defends himself with courage and great bravery. His bite is dangerous, and the severest blows will hardly make him quit his hold.

The Fox, and his relatives, are found throughout the habitable globe. Naturalists principally recognise six different species: the common, a citizen of

the world; the small yellow Fox, ranging over the vast heaths of Central Asia, from the Volga to the East Indies; the tri-coloured and silvery black, peculiar to America; the blue, affecting Siberia; the Cape, inhabiting the country whence its name; the Arctic, a native of the cold regions of the farthest north.

THE CIVET, (*Viverra civetta*.)

WE now proceed to the *Viverræ*. The first species is the Civet, a pleasing animal, a native of the warm climates of Africa and Asia, yet bearing without a murmur transitions from heat to cold, and residing either in the temperate or frozen zone, if carefully defended from the severities of the weather.



THE CIVET, (*Viverra Civetta*.)

Numbers are kept in captivity in Holland for the purpose of collecting their valuable perfume, which constitutes a branch of commerce, and is more

esteemed than that of the Levant or India, being purer and less strongly scented.

The Civet is naturally ferocious; alert and nimble, he runs with amazing swiftness. He lives by hunting, surprises small animals and birds, and, like the weasel, will steal occasionally into the farmer's yard, and carry off his poultry. Yet he may be easily domesticated, and handled without danger.

The Zibett (*Viverra Zibetta*) closely resembles his relative, the Civet: some naturalists regard him merely as a variety, but Cuvier establishes a decided difference. Yet his habits, geographical boundaries, and general disposition, are so nearly similar, that we may notice only his perfume as being far more powerful than either of his kind.

A comparatively slight diversity of colour seems to constitute the principal difference between the Rasse (*Viverra Rasse*) and Zibett; yet their tempers and localities are widely different. The former supplies in Java the place which the Civet holds in Africa, and the Zibett, on the Asiatic continent from Arabia to Malabar, and the large islands of the Indian continent. He is naturally amiable, and is often found among the Arabs and Malays who inhabit the maritime parts of Borneo, Madagascar, and other islands, in a state of partial domestication, resembling that of the common cat; the Rasse, on the contrary, preserves in confinement the natural ferocity of his disposition, undiminished. As his perfume is greatly valued by the natives, he is frequently kept in cages, but must always be obtained for this purpose from a wild state. His

perfume resembles that afforded by the Civet and Zibett, both in colour and consistence. The Javanese use it profusely with various ointments and scents from flowers. Even the furniture and apartments of the great are generally scented with it to such a degree, as to be offensive to Europeans; and at their feasts and public processions the air is filled with the odour.

THE GENETS.

THE next subdivision of the Viverræ comprises the Genets.

To illustrate the peculiarities of each individual would prove a laborious task, equally devoid of instruction and amusement. We shall, therefore, content ourselves with investigating a few specimens that most strongly mark the general habits of the tribe, their characters, mode of life, and relative situations in the general economy of nature.

The Genet (*Genetta vulgaris*) is a beautiful, cleanly, and industrious animal, of a gentle disposition, and clothed in valuable fur. Ever ready to appropriate his services for the use of man, he assists the natives of Constantinople in destroying rats and mice, and such predatory animals as infest their houses. He is therefore, a general favourite throughout his native regions, Turkey, Syria, and Spain, and suffered to range at large, or to enter unmolested the dwellings of the people. It has been even said, that he might be rendered a valuable addition to our stock of domestic quadrupeds. The agreeable scent he yields accords with

his gentle nature: it has nothing of that strength and pungency which generally distinguishes animal perfumes.

THE HYÆNA GENET, (*Viverra hyænoides*.)

THE Hyæna Genet belongs to the same comprehensive tribe: but concerning his natural disposition and wild habits, no particulars have reached us. There is something so peculiar in this creature,—such a blending of the dog and the hyæna in his construction and appearance,—that he seems to militate against the universal application of that familiar and trite saying, that “no two faces are alike.” One might almost fancy at first sight, that two creatures were blended into one, that novelty had been exhausted, and that former models were resorted to. But such conclusions would be at variance with the wonderful, and, to our finite perceptions, the exhaustless phenomena that surround us.

THE ICHNEUMON.

IF, in the mythological system of ancient Egypt, the various beings that people the earth's surface were each supposed to be entitled to some degree of reverence, in consequence of their assigned part in the general harmony of nature, the Ichneumon (*Mangusta Ichneumon*) unquestionably possessed more claims than any other animal to the consideration of that singular people. He presented a lively image of a beneficent power, perpetually engaged in the destruction of those noisome and dangerous reptiles, which increase with terrible rapidity in hot and humid climates. Not that he dares to

attack the crocodile, or any of the lizard tribe, with open force, either when young, or when these creatures are fully grown: it is only by feeding on their eggs, that the *Mangusta* reduces the number of these intolerable pests. He, timid and diminutive, has neither the power to overcome, nor courage to attack such formidable adversaries; nor is he decidedly carnivorous, but urged by the instinct of destruction, he is obviously destined to this purpose. He may be seen, at the close of day, gliding through the ridges and inequalities of the soil, narrowly observing every surrounding object, with the view to avoid danger, or discover his prey. If successful, he does not limit himself to the momentary gratification of his appetite, but exterminates all within his reach, when they happen to be too feeble to offer any effectual resistance. The eggs of the crocodile are his favourite quarry, and by destroying them he keeps down the abundance of these formidable creatures. That he enters the mouth of this animal when asleep, is not more true than that he attacks him when awake. This assertion is either fabulous, or, like other marvels, it has ceased to be believed in our enlightened age. The time, when animals were endowed with supernatural qualities, when every grove and stream was haunted with aerial beings, has long gone by. Men have ceased to witness wonders of this kind precisely at the period when they ceased to believe them.

The *Ichneumon* exhibits remarkable perseverance. He will remain for hours in the same place, watching the animal he has marked for his victim. This quality renders him an excellent substitute for a

cat, in the office of ridding his master's house of such parasitic animals as choose to reside there. When properly domesticated, these valuable coadjutors of man become attached to the roof that shelters them, and to the person by whom they are brought up: they never wander, or attempt to return to their original state of wildness and independence. They know the persons, and recognise the voices of their protectors, and are pleased with the caresses that are bestowed on them. But all the amiable features of their character seem to disappear when in the act of eating: they then seek the closest covert, and manifest great anger, if any one dare approach them.

THE GARAGNAN, (*Mangusta muggos*).

As the Ichneumon is employed in Egypt to keep down the redundance of noxious reptiles, so is his Indian brother assigned to the vast teak forests of the East, with the same benevolent design. This animal, well known in Java by the name of Garagnan, is a general favourite with the natives, who delight to witness his tremendous conflicts with large serpents. No sooner does the reptile involve the crafty Garagnan in his folds, than he, well-tutored to the fight, inflates his body to a considerable size, and then as suddenly contracts himself, slips between the folds, and seizes his enemy by the neck. He is, besides, expert in burrowing, to search for rats, and evinces great natural sagacity, willingly seeking the protection of man, and becoming unalterably attached to his master. Nor is this all. His little playful arts are cheerfully employed for

his amusement: he follows him like a dog, delights in his caresses, and places himself on his hind legs, while he regards everything that passes with the greatest attention. Yet with all these engaging qualities, the Garagnan evinces a certain untowardness of disposition, which generally precludes him from the houses of the natives. He is restless, carnivorous, and employs all his finesse to surprise the chickens. Hence he is rarely found in a domestic state; as the Javanese raise great quantities of poultry in their villages, and on these they principally subsist. They also, like Mohammedans in general, have a partiality for cats, and are unwilling to be deprived of their society, for the sake of introducing the Garagnan. Moreover, his sanguinary character shows itself occasionally in a manner that renders his domestication dangerous, and he indulges at intervals in fits of excessive violence.

THE SURICATE, (*Suricata cupensis*.)

THE Suricate is chiefly guided by the sense of smelling. Hence he ferrets about, and thrusts his long nose into hollow places, and the moment he discovers either sweet fruit, or milk, or eggs, he seizes and instantly destroys them. He is also feelingly alive to unkindness or affection. Cuvier tells us, that one is the necessary consequence of the other; but in this opinion we cannot agree. The purring races are less susceptible of affection than the dog, and more so of hatred. The Suricate recognises those who attend to him; he is pleased with their caresses, and becomes permanently attached to them.

THE HYÆNA, (*Hyæna vulgaris*.)

THE ferocity of the Hyæna, and his preferring to prey on the dead rather than on the living; his frequent propensity to visit burying-grounds, and the fearful howlings with which he accompanies these unhallowed deeds, have conferred on him a character for ferocity not founded on truth. It is true that ill-treatment renders him extremely furious; and who does not revolt from oppression? But under opposite circumstances he will exhibit well-authenticated instances of mildness and docility. His cage

THE STRIPED HYÆNA, (*Hyæna vulgaris*.)

may be entered with impunity: he will approach to fawn upon those whom he knows; and were it not for the prejudices that exist against him, a Hyæna thus tamed, might be intrusted with almost as much liberty as a cat or dog. There is in this respect a

remarkable coincidence of character between the two species;—viz., the one which inhabits India, as far as Abyssinia and Senegal; and the other, which is generally known as the Tiger-Wolf of the Cape: both, in a domestic state, would doubtless render to mankind services of the same kind and degree as the canine species.

Yet, notwithstanding the facility with which the Hyæna is tamed, there can be no doubt of his excessive ferocity in a savage state. His natural fondness for carrion leads him around the habitations of man, and the enemies which there encounter him, undoubtedly contribute to the fierceness of his character. In the East he is frequently observed to traverse by night the suburbs of towns and populous villages, and even to penetrate into the interior, in order to feed on animal remains. Nothing is more common than to see these necessary, though fearful scavengers, sitting cordially at the same unhallowed banquet with Jackals, wild dogs, and vultures, until the portion becomes too small to satisfy the voracity of each. In Abyssinia their numbers are intolerable. They are everywhere present, both in the fields and cities. Gondar is full of them, from the moment it grows dark, till daylight; they seek the slaughtered carcasses which these cruel and unclean people expose in the public streets without burial, and who firmly believe that these dreadful creatures are Falashas from the neighbouring mountains, transformed by the Magi, and issuing from their barren haunts to prey unseen upon the dead. Bruce tells us that when detained by the king of Gondar to a late hour, he has often been apprehensive, in

going across the square, lest they should have bitten his legs, though surrounded with armed men, who rarely passed a single night without wounding or destroying several.

The very countenance of the Hyæna seems to indicate a peculiar gloominess and malignity of temper, and their mode of life renders them detestable; but then it should be remembered that their unhallowed office is assigned them in the great economy of nature, and that it arises from the unclean habits of the people among whom they live. Nor is it judicious to despise a workman who performs his appointed duty well, because the doing of it is connected with circumstances repugnant to our feelings. If mankind were virtuous, nay, if they were even civilized, in the portion of the globe which they inhabit, their occupation, as nature's scavengers, would cease. They must in that case retire further back, into deserts unvisited by human footsteps, to keep down the redundancy of animal existence; or else subsist, like their brethren of Mount Libanus, Syria, the north of Asia, and around Algiers, on large, succulent, bulbous roots, such as onions, leeks, &c. Most probably their manners would be less repulsive; for Shaw relates that these Hyænas were comparatively gentle—that he has seen the natives take them by the ears, and pull them, without their offering any other resistance than that of drawing back.

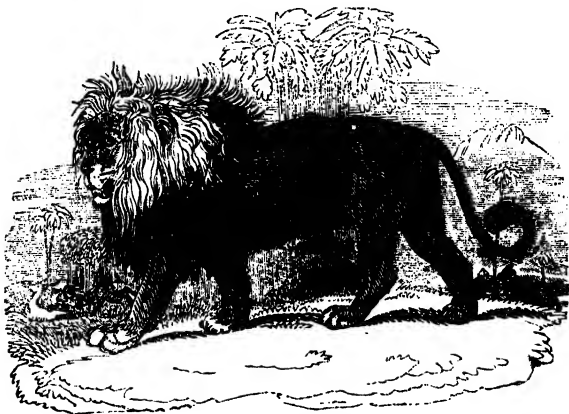
The striped or common Hyæna, represented in the engraving, inhabits Barbary, Egypt, Abyssinia, Nubia, Syria, and Persia; the spotted, (*H. crocuta*), South Africa.

THE LION, (*Felis leo*.)

WE have now arrived at the genus *Felis*, the most prominent of this terrible order of animals; a genus more distinct and isolated, more obviously characterized to the eye of common observation, and more easily defined by its systematic character, than almost any other. A similarity in physical and moral habits, nearly approaching to identity, prevails throughout almost all the species, from the dauntless Lion and ferocious tiger, to their domestic relative, the common house-cat. Size and colour constitute their leading specific distinctions, though certain families exhibit a slight approximation to dogs, whence they are called canine cats: a similar aberration from the original type has also been observed in one or two species of the weasel.

It might well be presumed that the natural history of a species of animals, acting so conspicuous a part on the theatre of life, as the Feline, would be clearly understood, and the species accurately defined. But such is not the case. Baron Cuvier commences his learned observation on the species of Cats, in the fourth volume of his "Fossil Osteology," by remarking that the large carnivorous animals, with retractile claws, and spotted fur, have been for a long time an annoyance to naturalists, by the difficulty of distinguishing with precision their several species. Some are sufficiently notorious; others are known to zoologists by certain specific differences, which sometimes apparently agree, and then appear to vary, as different types successively come to light. We may adduce, in proof of this assertion, the

panther, leopard, the little groups of ocelots, servals, &c., with many others, hitherto concealed from the eye of critical examination, and known only to the scientific part of the world in the pages of voyages and travels. These, though named and described, are properly mere candidates for insertion in systematic catalogues, rather than recognised as accepted claimants.



THE LION, (*Felis leo*.)

The superior strength, carnivorous habits, noble bearing, and predatory habits of the Lion, cause him to be considered the monarch of the forest and the plain, the dread and terror of every living creature.

Yet the character of the Lion has much of magnanimity. Some modern naturalists have compared

his disposition to that of the Tiger; but in fact there is little similarity between them. He possesses greater confidence, and more real courage; he differs likewise in permanent attachment to his mate, and in parental fondness for his young; while the Tiger soon forgets the object of his affection, and is often the terror and destruction of his progeny.

The exterior of this noble creature accords with the well-known generosity of his mind. His figure is fine, his look firm and determined, his walk stately, and his voice tremendous. He is not too bulky, like the Elephant and Rhinoceros, nor unwieldy, like the Hippopotamus or the Ox, nor too contracted, like the Tiger, nor lengthened, like the Camel. He is, on the contrary, so well poised, and so proportioned, as to be regarded by statuaries and painters as a perfect model of strength combined with agility. Equally strongly-built and active, neither overloaded with fur nor flesh, he seems to be constituted entirely of nerve and muscle. His great force is manifested by the prodigious leaps and bounds which he performs with ease; by the brisk movements of his tail, of which a single sweep is sufficient to overset the strongest man; and lastly, by the extraordinary faculty he possesses of agitating and erecting the hair of his mane, when more than usually enraged.

But the most accurate descriptions or engravings can convey but a faint idea of this animal. The naturalist and painter alike fail in describing and depicting the terrific work of nature as exhibited in this king of beasts.

Fully to appreciate his tremendous roar, it must be heard. Those who have listened to this dreadful sound on the vast deserts of Arabia, affirm that the effect which it produces is appalling; that even though feeling perfectly secure, it has excited within them that awful admiration which is commonly experienced on witnessing any of the grand and tremendous operations of nature.

There to the solitary Lion's roar
So many echoes answer, that there seems
Ten in the field for one;—where'er they turn,
The flying animals, from cove to cave,
Hear his voice issuing, and recoil aghast,
Only to meet it nearer than before,
Or, ere they see his shadow, or his face,
Fall dead beneath his thunder-striking paw!

When in the act of seizing on his prey, the deep-toned thunder of his roar is heightened into a horrid scream, which accompanies the fatal leap. This power of voice is said to be useful to the animal in hunting. The weaker species, terrified at the appalling sound, flee from their hiding-places, where alone they could be safe, as the Lion does not hunt by scent, and thus expose themselves to the sight of the enemy, and consequently to certain death. And yet, unlike many of the carnivora, which appear to derive a fearful gratification from animal destruction beyond their own necessities, the Lion, when once satiated, ceases to be an enemy. Hence very different accounts are given by travellers, concerning the generosity or cruelty of his nature, and these result most probably from differences in time and circumstances, or from degrees of hunger. Instances undoubtedly occur of a traveller meeting

with this tremendous creature in the forest-paths,
during the heat of day,

Who glared upon him, and went surly by,
Without annoying him ;

but when urged by want, he is as fearless as he is powerful ; yet, in a state of confinement, or when not exposed to the extremity of hunger, he generally exhibits tokens of more tender feelings than are discoverable in most of the carnivorous animals.

The maternal affection of the Lioness is proverbial. Though naturally weaker and less courageous than her partner, she becomes, when surrounded with her family, most dreadfully ferocious. She then exposes herself with even more boldness than the Lion ; she fears no danger, but indiscriminately attacks both men and beasts ; and, after slaying, carries them home to her whelps, whom she soon accustoms to such dreadful food. These are reared in the most inaccessible and sequestered places ; and, in order to prevent the danger of discovery, the mother has been known to conceal the tracks of her feet, by returning several times on her steps, or by effacing them with her tail. When more than usually anxious, she transports her young to a place of greater security ; and if the hunters attempt to take them away, her rage becomes unbounded, and she defends them to the last extremity.

To all these splendid qualities, we may add the nobleness and unique nature of the lion. He is distinguished by characters so deeply marked that they can neither be mistaken, nor confounded with any other.

These lordly creatures generally inhabit the countries within the tropics, for nature seems to have closed against them every avenue towards the north. In addition to their known places of resort, South-eastern Asia has recently been added to the list. The honour of this discovery is due to two young officers of the 8th Light Dragoons. These gentlemen went one morning, during a campaign in India, on a hunting excursion, and having quitted their elephants, were walking near a jungle: one who was more experienced in the country than his companions, suddenly observing a recent track, which he supposed to be a Tiger's, hastened forwards in the same direction, till he discovered the mangled body of an Antelope. Alarmed at the circumstance, and still more at observing no less than three distinct tracks, all leading to the prey, he and his companion justly concluded, that more than one of these fierce creatures must be near them: while returning to the Elephants, they were astonished to see a Lion emerge from the edge of the jungle, open his jaws, stretch himself, and then coolly return into the cover. Upon this, they remounted, and proceeded into the jungle, with more courage than wisdom; but they had scarcely advanced a few yards, when the Lion sprung forth, and the Elephant, wheeling round, fled, severely wounded, to the plain. The next day a regular hunting party, with several Elephants, proceeded towards the place. When the line was formed, the sagacious animal that had been wounded, trembling with anxiety, evincing extreme uneasiness, and instigated, it would seem, by the desire of vengeance, kept her whole

length before the others in the clearing of the jungle. In the course of a short time, three of the inmates of the place were killed, and thus probably the presence of the Lion in India, in modern times, was first satisfactorily ascertained.

They have since been found to exist in considerable numbers in the districts of Suharunpoor and Loodianah. They have also been killed on this side the Ganges, in the northern part of Rohilcund, in the neighbourhood of Woharabad and Rampoor, as large, it is said, as the average of those at the Cape of Good Hope. They are very troublesome to the villagers whose dwellings skirt the forest, and who, having no Elephants, attack them to a great disadvantage. When a Lion or a Tiger has established himself in the vicinity, the whole population turn out, with mattocks, swords, and shields. Fighting on foot, and compelled to drive the monster from his covert by entering and beating the jungle, one or two lives are generally sacrificed, but the fierce intruder seldom escapes. So terrible is the affray, that animals of this kind are frequently destroyed whose skins bear the strongest marks of having been fought with, if the expression may be used, hand to hand; and were in fact slashed over with cuts of the *tulwar*, or short scimeter. A reward of four rupees for every Tiger's head is given by the government; and if the villagers report that a Tiger or Lion is in their neighbourhood, there are seldom wanting sportsmen, among the civil and military officers, who hear the news with pleasure, and make haste to rid them of the nuisance. A good marksman, mounted

on an Elephant, cannot fail to destroy several of these terrible carnivora.

As noxious animals yield, if not to the physical, at least to the intellectual powers of man, their decrease, either generally or locally, may be observed to accord with the progress of refinement in human life. Baron Cuvier has, with much learning and research, accumulated instances of the existence of Lions in parts of which they are no longer natives, and of their former great abundance in countries where they are now but partially known.

Herodotus relates that the Camels which carried the baggage of the army of Xerxes were attacked by Lions, in the country of the Pæonians, in Macedonia, and also that there were many in the mountains between the river Nestus, in Thrace, and the Achelous, that waters Arcadia. Aristotle repeats the same as a fact well known in his time. Pausanias, who also narrates the disaster which befell the Camels of Xerxes, says further, that these Lions often descended into the plains, at the foot of Olympus, between Macedonia and Thessaly.

With the exception of some countries on the borders of India and Persia, and certain portions of Arabia, these lordly creatures are now rare in Asia; anciently they were common. Besides those of Assyria, mentioned in Holy Writ, and the noble creatures which came up from the "swellings of Jordan*," when that ancient river overflowed its banks, Armenia was pestered with them. Apollonius of Tyana saw, near Babylon, a Lioness with eight

* Jeremiah xii. 5.

whelps ; and in his time they were common between Hydaspis and the Ganges. Ælian mentions the Indian Lions, which were trained to the chase, as remarkable for their magnitude, and for their fur.

That the species has become rare, in comparison with former times, may be inferred from the sanguinary combats of the amphitheatre. In proof of which it may be noticed, that the Romans drew from Libya, for their public spectacles, fifty times more than could now be found in that country. Sylla, the dictator, during his prætorship, exhibited one hundred Lions, and, after him, Pompey devoted more than six hundred to the bloody spectacles of the arena. They were protected by the laws ; and, in Africa, however terrible their ravages, the unfortunate peasant who killed one of them, even in his own defence, incurred a heavy penalty. This extraordinary game-law was mitigated by Honorius, and finally repealed by Justinian.

Such are the facts which establish their numerical superiority in countries where they are now few, or perhaps unknown.

In Turkey, Persia, and generally throughout India, the Lion is much less frequent than in ancient days ; and as this bold and powerful animal preys on every creature, and is himself a prey to none, the diminution can only be attributed to the increase or superior civilization of mankind ; for it must be allowed that the physical strength of this king of beasts is no match against the address of even a Hottentot, or Negro, who will often attack him single-handed.

Man's industry augments in proportion to his

numbers, but that of the brute creation remains stationary. Those who anciently depopulated districts, and spread terror wherever they advanced, are now banished to distant regions, or become few, not only because the regions they once inhabited, are many of them populous and cultivated, but because the tenants of the soil have invented arms which nothing can resist. Would to heaven that man, the lord of the creation, had never combined the operations of steel and fire for other purposes than those of destroying wild beasts.

The influence of climate on mankind is marked only by slight varieties, because the species is single and distinct; but such is not the case with any other. A thousand differences spring from this exciting cause, not only in the more striking, but less perceptible distinctions. In considering the interesting peculiarities which distinguish the brute creation from their delegated master, none perhaps are more obvious or characteristic. The strength and flexibility of the frame of man enable him to subsist in each variety of temperature, while his ingenuity can devise the means of support from the most ungrateful soils. He is found in the high latitudes of the frozen regions; beneath the burning line, on lofty mountains, in deep valleys, dark morasses, and sandy deserts. Cold and heat, drought and moisture, every atmospheric variety, as regards his existence, are alike to him. He seems able to live anywhere. This supremacy constitutes an essential line of distinction between him and the lower orders of creation. Some are unable to exist beneath the line; others cannot endure the frozen

regions: the Lion never migrates towards the poles, nor can the Rein-deer exist on this side the Danube. Man alone endures the fierce extremes of heat and cold. Every other description of animated being has its peculiar country; and though some, as the horse, the ox, and sheep, are said to inhabit almost every part of the habitable globe, this remark must be taken in a restricted sense. Not one of these could exist without the care of man on the burning deserts of Sahara, (the home of the wandering Arab;) theirs must be a land of green fields, of groves, and springs of water.

In sultry climates the land animals are larger and more ferocious than beneath the temperate, or frozen zones. Their ardent natures seem the natural result of a glowing atmosphere, and scorching sun. Hence the Lions of Africa and India are the strongest and most formidable of their species. Those of America, if they deserve the name, are like the climate, considerably milder; and what evinces that the excess of their ferocity results from the degree of heat, is the extraordinary fact, that, even in the torrid regions, such as inhabit high mountains, where the air is temperate, differ materially from those that reside on the plains. The Lions of Mount Atlas, the stupendous ridges of which are covered with snows that never melt, have neither the courage, ferocity, nor strength of their terrific brethren of Biledulgerid or of Sahara, the plains of which exhibit burning sands. It is chiefly in such fervid deserts that the traveller encounters these terrible Lions, which are the dread and the scourge of the neighbouring provinces.

It seems, too, as if the vicinity of man had a tendency to depress the Lion's courage. This quality, though natural to the carnivorous animals, increases or diminishes, as the exertions of their strength are successful, or the reverse. In those desert countries of which we have just spoken; which seem to separate two very different races of men, the Moors and the Negroes, in the slenderly peopled regions that lie around the territories of the Hottentots, and generally throughout the southern parts of Africa and Asia, the Lions are still very numerous. Accustomed to measure their strength with that of every other animal, the habit of conquering renders them terrible and intrepid. Being ignorant of the power of man, they are not even afraid to encounter him. Having never experienced his power, they hold it in defiance. Wounds enrage without terrifying them, and they are not even disconcerted by numerical superiority. A lion of the desert will often attack a numerous caravan, and if, after a violent and obstinate engagement, he is wounded, he retreats with terrible menaces, always opposing himself to the enemy.

Lions, on the contrary, which dwell in the vicinity of large towns and villages, throughout India and Barbary, being acquainted with man, and the power of his arms, become comparatively so timid, that they are frequently repelled with loud shouts. Buffon asserts that they fly even from the women and children, who make them quit their prey by striking them with clubs.

This timidity, this softening of a temper so naturally ferocious, clearly indicates that the Lion is

susceptible of the impressions designed to be made upon him, and that he possesses a docility sufficient to render him capable of domestication. History informs us that these fierce creatures have been yoked to a triumphal car. Mark Antony first appeared in the streets of Rome in a chariot drawn by Lions. Even in modern times, they constitute an appendage to the pomp of Eastern royalty. Mr. Bell informs us that on days of audience, the Persian monarch has two large Lions stationed beside the passages to the hall of state, and held by officers in chains of gold. Thus much is certain, that the Lion when taken young, and brought up among domestic animals, is easily accustomed to live, and even to sport innocently, with them; that he is gentle and affectionate to his master; and that, if he occasionally re-assumes his natural ferocity, he seldom directs his rage against his benefactor. But then, as his movements are impetuous, and his appetite remarkably insatiate, we ought not to presume that they can be entirely counteracted by education. It is dangerous, therefore, to irritate, or to allow him to want provisions: rough treatment not only enrages him, but he remembers it, and seems to meditate revenge in the same degree as he gratefully acknowledges benefits received. Many facts might be adduced, to prove that this lordly creature is noble, his courage magnanimous, and his disposition susceptible of the kindlier feelings. He has often been known to disdain the insults, and to pardon the offensive liberties, of weak opponents. When led into captivity, if he discovers symptoms of un-

·easiness, it is without peevishness or anger; he soon becomes gentle, obeys his master, caresses the hand that feeds him, and sometimes spares the animals that are thrown to him for prey. By this last act of generosity, he seems to consider himself bound to protect them. He then allows them to live peaceably in his den, gives them a part of his food, and will rather submit to the gnawings of hunger than destroy the objects of his beneficence.

Major Smith notices eleven instances of Lions who have fostered and protected dogs, but only one in which the Tiger has exhibited similar kindness of disposition. Nay, Lions have shown unequivocal marks even of gratitude and affection towards their keepers. Witness, among others, the well-known story related by Ælian, of a Lion, to whom a man, who had formerly been his keeper, was exposed in the amphitheatre at Rome, and who was not only instantly recognised but defended by the grateful beast.

A keeper of wild animals, at New York, says Major Smith, had provided himself with a fur cap, on the approach of Winter. The novelty of this costume attracted the notice of the Lion, which, making a sudden grapple, tore the cap off his head, as he passed the cage; but perceiving that the keeper was the person whom he had thus uncovered, he immediately lay down, as if to supplicate forgiveness. At another time the sagacious brute, hearing some noise under his cage, passed his huge paw through the bars, and actually hauled up the keeper, who was beneath. The moment he had discovered

that he had thus ill-used his master, he instantly threw himself upon his back, in an attitude of complete submission.

One single fact yet remains to be noticed in the natural history of this noble quadruped. Two Lions, which have been some time in the menagerie at the Jardin du Roi, afford an opportunity of verifying a peculiarity mentioned by ancient naturalists; namely, that there is, at the extremity of the tail, a small claw, concealed in a tuft of hair. It is a horny substance and resembles a small cone, a little inclining upon itself. This claw adheres by the base to the skin alone, and not to the last vertebra from which it is entirely separate. The commentators of Homer endeavour to explain, by the presence of this claw, the singular circumstance mentioned by that great poet of the Lion's lashing his sides violently when irritated, as if to excite himself to augmented fury. Blumenbach ascertained the existence of that claw, several years since, but the work in which he noticed it, has unhappily been lost, and naturalists would, probably, have remained ignorant of the fact, had it not been pointed out by the indefatigable M. Deshays.

We have mentioned elsewhere, how strikingly some remarkable predictions are associated with different wild animals, with such, especially, as are assigned to the most lonely places of the earth; and have briefly noted the past splendours of Idumea, as contrasted with its present abject state. Now, that the inhabitants, once so renowned for wisdom as well as power, have passed away, and desolation spreads so widely over it, that it can scarcely be said

to be inhabited by man, there are tenants to whom it is abandoned, and to whom it is decreed by a voice more than mortal. And insignificant and minute as it may appear to those who reject the light of revelation, or to the unreflecting mind, that will not use the measuring line of truth, the following Scripture may, in conjunction with kindred proofs, yet tell to man, if hearing he will hear, and yet show him, if seeing he will see, the verity of the Divine Word, and the infallibility of the Divine judgments:—"The wild beasts of the desert, with the wild beasts of the islands, shall dwell there*."

In referring to the thirteenth verse of this awful chapter, and to the one that immediately succeeds it, we may observe, with regard to the precision of the prophecies, and the distinctness of the events which they detail, that the different animals there enumerated were not all, in the same manner, or to the same degree, to be possessors of Edom. Some were to rest, to meet, or to be gathered there; others were to possess the land; and of all the wonderful circumstances connected with Edom, the fact, (as recorded in an ancient chronicle,) that the Emperor Decius caused fierce Lions and Lionesses to be transported from the deserts of Africa to the borders of Palestine and Arabia, in order that, by increasing there, they might act as an annoyance and a barrier to the barbarous Saracens, is one of the most remarkable. Between Arabia and Palestine lies the doomed and execrated land of Edom. A cause so unnatural and unforeseen would greatly tend to the destruction of the flocks, and to the desolation of the

* Jeremiah L. 39.

adjoining territory; and hence it could be even literally said that, "The wild beasts of the desert, with the wild beasts of the islands, dwell there."

Noted as Edom was for its terribleness, and possessed of a capital city, from which even a feeble people could not easily be dislodged, there could scarcely have been a question among its enemies, to what people that country would eventually belong. And it could never be imagined by the natives of another land, as the Jewish prophets were, that a kingdom, then so great and flourishing, would be finally extinct, that all its cities would be for ever desolate, and that the Lion, with other wild creatures mentioned by name, would, in different manner and degree, possess the country from generation to generation.

Yet this now desolate country did send forth, on a sudden, an army of thirty thousand men, in aid of a neighbouring state; successive kings and princes reigned in Petra; and magnificent palaces and temples, whose empty chambers and naked walls, of wonderful architecture, still strike the traveller with amazement, were constructed there, at a period unquestionably remote from the time when it was given to the prophets of Israel, to tell, that the house of Esau was to be cut off for ever,—that there would be no kingdom there, and that the Lion would possess it for a heritage. And so despised is Edom, and the memory of its greatness so completely lost, that there is no record of antiquity that can so clearly tell what once it was, in the days of its power, as we can now read, in the page of prophecy, its existing desolation. But in that place, where

kings kept their court, and where nobles assembled, where manifest proofs of ancient opulence are concentrated, where princely habitations, retaining their external greatness, but bereft of all their splendour, still look as if fresh from the chisel,—even there no man dwells; it is given by lot to birds, and beasts, and reptiles; it is a “court for owls,”—the haunt of Lions; and scarcely are they roused, in their lonely habitations, by the tread of a solitary traveller from a far distant land, among deserted dwellings and forsaken palaces!

Babylon, too, once the glory of kingdoms, the beauty of the Chaldees’ excellency, is especially the resort of savage animals. The vast heaps which constitute all that now remains of that proud city, present a picture of unutterable desolation. The eye wanders over a barren desert, where a number of dry canals, ruined embankments, divided and again subdivided, like a tangled net-work, over the apparently interminable ground,—chains of undulating mounds, covered with fragments of bricks and broken tiles,—are indubitable traces of ancient population; and even in the distance, beyond the precincts of old Babylon, all the luxuriance of the vale of Shinar, a region once distinguished, even amid the unspeakable fertility of the East, for its fruitfulness and beauty, has entirely disappeared; it is gone so clear away as if the besom of destruction had swept it from north to south. The edict of the Most High went forth against it, and twenty-five centuries ago, its utter barrenness and desolation were delineated as precisely as they are now seen and described. Yet still the majestic stream of the

Euphrates, wandering in solitude like a pilgrim monarch through the silent ruins of his devastated kingdom, appears a noble river, under all the disadvantages of its desert-tracked course. Its banks are hoary with reeds; and the willows are yet there, on which the captives of Israel hung up their harps, and (while Jerusalem was not,) refused to be comforted. But how is the rest of the scene changed since then! At that time the broken hills were palaces—the long, undulating mounds, streets,—the vast solitude that now surrounds the spectator, like a tomb, was filled with the busy subjects of the proud daughter of the East. Now, wasted with misery, her *habitations are not to be found*—and for herself, *the worm is spread over her*.

From the fourteenth century to the present time, succeeding travellers attest that the ruins of Babylon have been unfrequented, in consequence of the terror that is inspired by the wild beasts who inhabit them. It is related, that, in the sixteenth century, the ruins were so full of venomous creatures, which lodge in the holes made by them in the rubbish, that except in two of the Winter months, no one durst approach within half a league*.

Other evidence might also be referred to, and the most credible and circumstantial testimony adduced. Sir R. K. Porter tells us, that on his second visit to Bers Nimrod, and as they were about to ascend the ruined Temple of Belus, the party suddenly halted, having descried several dark objects moving along the summit of its hill; these they conjectured to be

* Keith on *Fulfilled Prophecy*.

dismounted Arabs, on the look-out; but a telescope soon discovered them to be three majestic Lions, taking the air on the height of the pyramid. Nor was this a solitary instance. The dens of wild beasts abound in various parts, and, in most of the cavities, there are bats, owls, and porcupines. Those caverns, over which the chambers of majesty may have been spread, are now the refuge of Jackals, and other savage animals. Their openings are strewn with the bones of sheep and goats; and the loathsome smell that issues from most of them, is a sufficient warning not to proceed into the den. The king of the forest now ranges over the site of that Babylon which Nebuchadnezzar built for his own glory. And the Temple of Belus, the greatest and most impious work of man, is now become like a natural den of Lions. It is also the unmolested retreat of Jackals, Hyænas, and other noxious animals. Superstitious feelings prevent even the wild Arab from attempting to pitch his tent there: he believes it to be the haunt of miserable spirits; that the moanings of the gusty wind, as it sighs round that hill of storms, are the wailings of those who remembered Babylon in all its opulence and power. Thus, even those idle fears which are the natural result of ignorance and superstition, tend, with other causes, to fulfil what the voice of prophecy pronounced, concerning the doom of the mighty and unconquered Babylon.

“It shall never be inhabited, neither shall it be dwelt in from generation to generation; neither shall the Arabian pitch tent there, neither shall the shepherds make their folds there: But wild beasts

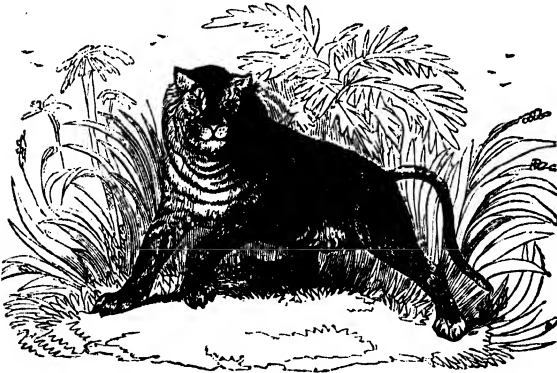


Lions amid the Ruins of Babylon

of the desert shall lie there; and their houses shall be full of doleful creatures; and owls shall dwell there. The wild beasts of the islands shall cry in their desolate houses*."

THE TIGER, (*Felis tigris*.)

THE Lion has obtained the credit of possessing many noble qualities in addition to that of courage, but the Tiger, of which we have now to speak, has always been supposed to be naturally cruel and bent on destruction. It is rather doubtful, however, whether these opinions are founded on fact.



THE TIGER.

The Tiger is the scourge of Asia and the Indian Isles. Equal to the Lion in stature, though not in

* Isaiah xiii. 20, 21, 22.

strength, neither deficient in courage nor ferocity, and roaming perpetually in quest of prey, he will sometimes attack even the king of beasts. But although the combat is often furious, he generally falls a victim to his temerity, unless some disparity in age, or other circumstances, should equalize their strength. Such is his amazing force and swiftness, that, during the march of armies, he has been known to snatch a horseman from his steed, and to bear him, by swift bounds and leaps, into the nearest jungle, or forest, beyond the possibility of rescue. Indeed the weight of a man does not seem materially to incommode or to delay the extraordinary swiftness of the beast.

Mr. Marsden informs us, that the Tigers of Suamatra prove to the inhabitants, both in their journeys and domestic occupations, most fatal and destructive enemies. Numbers of people are annually destroyed by these rapacious tyrants of the woods. Whole villages are sometimes depopulated by their inroads; and yet it is with difficulty that the natives are prevailed upon, even by the large rewards which the East India Company have offered, to use methods for destroying them. Nor will they exert themselves till some of their dearest connexions have been sacrificed.

Travellers relate, that if a Tiger misses his aim, he does not pursue his prey, but that, as if ashamed of the disappointment, he immediately runs off. Pennant tells us that a company, seated under the shade of some trees, near the banks of a river, in Bengal, were surprised by the unexpected appearance of a Tiger, preparing for its fatal spring. Every

countenance grew pale, when, at the moment, a lady, with unexampled presence of mind, unfurled her umbrella in the dreadful creature's face, which instantly bounded away, and thus afforded the terrified group an opportunity of escaping. Another party lost, in the height of their entertainment, as if by a flash of lightning, a companion, who was seized, and in a moment borne away, by one of these terrific creatures. But it seldom falls to the lot of the natural historian to record a more appalling instance of their extreme ferocity, than that which recently occurred in the East Indies. "We went," says the narrator, "on shore at Saugur Island, to shoot deer, of which we saw innumerable tracks, as well as those of Tigers. Notwithstanding this, we continued our diversion till near three o'clock, when sitting down by the side of a jungle to refresh ourselves, a roar like that of thunder was heard, and an immense Tiger seized on our unfortunate friend*; then rushed into the jungle, and dragged him among the thickest trees and bushes; everything giving way to his monstrous strength: a Tigress accompanied his progress. An united feeling of agony, of horror, distress and fear, rushed at once upon us. I fired at the Tiger,—he seemed agitated,—my companions fired also, and in a few moments after this our unfortunate friend came up to us, bathed in blood. Medical assistance was afforded as soon as possible, but all in vain; he expired in twenty-four hours, having received such deep wounds, from the teeth and claws of the savage animal, as rendered

* Mr. Monro, son of Sir Hector Monro.

his recovery hopeless. A large fire, consisting of ten or eleven trees, was blazing near us at the time this accident took place, and several of the natives were with us. The human mind can scarcely form an idea of such a scene of horror. We had hardly pushed our boat from the dreadful shore when the Tigress made her appearance, almost mad with rage, and continued on the sands during the time that the party remained in sight."

We may further adduce, as an instance of their terrible ferocity, the following affecting anecdote. An acquaintance of Captain Hamilton's, who was marching with a body of troops through a dismal wilderness, between Gulliakote and Luncewarra, called on a Bheel villager, very early one morning, to be his guide through the wood. The Bheel remonstrated. "It was not safe," he said, "to march before daylight." But the officer, supposing this to be a mere pretext, was positive, and threatened him if he did not go. The man said nothing more. He took up his sword and shield, and walked on, along the narrow path, overhung with high grass and bamboos. The officer followed, at the head of his men, and had moved slowly, half asleep on his saddle for about five miles, when he heard a hideous roar, and saw a very large Tiger spring past him, so close that he almost brushed his horse. The poor Bheel lifted up his sword and shield, but was down in an instant under the animal's paws, who turned round with him in his mouth, growling like a cat over a mouse, and looked the officer in the face. He did what could be done; and, with his men, attacked the Tiger, whom they wounded so

severely that he dropped his prey. But the first blow had done its work effectually; and the poor man's skull was smashed in such a manner as literally to be all in pieces. The officer told Major Hamilton, that from that day the scene was seldom absent from his dreams, and, with the least illness or fever, he had always a return of the vision of the Tiger, with the unfortunate man in his jaws, whom his imprudence had sacrificed.

But in proportion as the country is cleared of wood, these fierce creatures become less formidable. In proof of which, Bishop Heber notices, that those months are most favourable for passing through the great forest, between Ambera and Chotee Sircoan, (their ancient haunt,) when, by reason of the heat, the long grass is burnt up, the rocks seem half calcined, and the leaves which remain on the trees are dry and sapless, crackling in the hand like parchment; when the bare, scorched boughs of by far the greater number give a wintry appearance to the prospect, which is strangely contrasted with the fierce glow of the atmosphere, and a sun which makes the blood boil and the temples throb. The few fine *peepuls* which retain their leaves, in the moist dingles by the river side, the *dhák*, with its pink blossom, and the scattered acacias, of which the verdure braves even the blast of an Arabian desert, though they redeem the prospect from the character of unmingled barrenness, are yet insufficient to afford close covert to wild beasts. Travellers may, therefore, pass on with comparative safety, if they are well armed, and keep a good look-out. In this part, the huts of the inhabitants, the form of

the hills, and the general appearance of the people and country, greatly resemble the borders of Circassia and Georgia: here and there, a few hamlets are discoverable, crowded together as if for mutual protection, with patches of cultivation, and small thatched inclosures adjoining, for their cattle.

The Tigress is even, if possible, still more ferocious than the male. When deprived of her offspring, her rage seems to know no bounds. She braves every danger, and pursues the plunderers, who are often obliged to release one of their victims in order to retard her progress. She then stops, takes it up, and carries it to the nearest cover, immediately sets off again, and continues to pursue the spoilers even to the gates of their town, or to their boats. When all hope of recovering her cubs is lost, she expresses the violence of her grief by such hideous and dismal howlings as excite terror wherever they are heard.

The most beautiful and destructive of the Feline group is a native of the warmer parts of Asia, extending as far as China, the Lake Ural, and the Altaic Mountains, though chiefly abounding in India and its dependent islands. When seen in perfection, and before his health has been impaired by long confinement, it is scarcely possible to conceive a more elegantly varied animal. Among the rich fur, in which nature has enveloped a large portion of her subjects, none are equal to the Tiger's. The bright orange-yellow, which forms the ground-colour; the deep and well-defined stripes of black, in some parts double, in others single; the pure white of the sides and under surface, over which a portion of the black striping is tastefully con-

tinued, form altogether a style of decoration superior in beauty to that which adorns the Zebra, or any other regularly marked quadruped, not excepting even the Panther itself.

These skins are much esteemed in China. The military mandarins use them, during their marches, to cover their sedans, and in the Winter as pillows.

The common Tiger is distinguished for elegance, agility, and fierceness, but the Nebulous, or Clouded Tiger (*Felis nebulosa*), is an exception to the general ferocity of the rest of its tribe. The limbs and forehead, the face and throat, are covered with numerous small, close spots; the sides with black stripes, forming a few large, irregular inclosures, some nearly round, others approaching to an oblong, like the irregular, uncertain figures of a passing cloud, or the bright yellow and rich brown of a tortoise-shell, when viewed by a refracted light. This beautiful animal is indigenous to Sumatra, where he is known by the name of Rimau Dehan, signifying a fork, formed by the branch of a tree, across which he is said to rest. The natives assert that, so far from possessing the general ferocity and forbidding aspect of his relative, his countenance is open and smiling, his manners playful and tender; and that he never attacks even a child, but rather seems to court the society of man, and contents himself with poultry, birds, and the smaller kind of deer.

The hunting of the common Tiger is a favourite sport in countries where they abound. We owe to the pen of Bishop Heber the following description of a scene to which he was an eye-witness.

The young rajah, Gourman Singh, a border

chieftain, whose father had been sovereign of all Kemaoon, till driven to take shelter within the Company's borders, having called to pay his respects to the bishop, during his stay at Kulleanpoor, mentioned that a Tiger, in an adjoining wood, had done a good deal of mischief, and that it would be fine diversion for the bishop, and Mr. Boulderson, the collector of the district. The bishop assured him that he was no sportsman; but the collector's eyes sparkled at the name of a Tiger, and he expressed great anxiety to go in search of him that very afternoon. The bishop, therefore, not liking to deprive him of his sport, went with the intention of being a mere spectator.

"The party set out on their Elephants, with a servant behind each seat or howdah, carrying a large hunting Tiger, which, however, was almost needless. A number of people, on foot and horseback, attended from the bishop's camp, and neighbouring villages; and the same sort of interest was excited as in England by a large hunting party. The rajah was seated in a low howdah, with two or three guns ranged beside him, ready for action; his Elephant was the smallest of the party, hardly larger than a Durham ox, and almost as shaggy as a poodle; she was a native of a neighbouring wood, where her race was generally smaller than those of Bengal and Cittagong. Mr. Boulderson had also a formidable apparatus of muskets and fowling pieces, projecting over his mohaut's or driver's head. Thus equipped, they proceeded about two miles across a plain, covered with long jungle grass, from out of which quails and wild fowls rose in great numbers, and

beautiful antelopes were seen scudding away in all directions.

“At length the party came to a deeper and more marshy ground, and while Mr. Boulderson was doubting whether they should pass through, or skirt it round, some country people came running to say that the Tiger had been tracked there this morning. They accordingly proceeded to the spot. It was a novel and stirring scene. The attendants were all eagerness and animation; they looked earnestly for every waving of the jungle grass, while the continual calling and shouting of both horse and foot excited an indescribable feeling of interest and surprise. The grass grew so wild, and rose so high, that it reached up to the howdah of the tallest Elephant, and almost hid the rajah's entirely. In the distance appeared, what might have been taken for clouds, had not their base been stationary, and their outline so harsh and pyramidical, the glorious range of the Himalaya mountains, the patriarchs of the continent, white and glistening as alabaster, and seen even at the distance of probably one hundred and fifty miles, towering above the nearest and secondary range, as much as these, which are said to be seven thousand six hundred feet high, lifted their giant buttresses above the plain on which the hunting party were assembled. It was impossible to gaze upon them without a feeling of delight and awe: but in a few moments the clouds closed round, as on the fairy castle of St. John, and left a cold gray horizon, encircling the green plain, and broken only by scattered tufts of peepul and mango trees.

“At last the Elephants all threw up their trunks

into the air, began to roar, and to stamp violently with their fore feet; the rajah's little Elephant turned short round, and, in spite of all her mohaut could say or do, she posted herself, to the rajah's great annoyance, close in the rear of the collector's. The other three, for one of the baggage Elephants had come out, went on slowly, but boldly, with their trunks raised, their ears expanded, and their sagacious little eyes bent intently forward. 'We are close upon him,' said Mr. Boulderson; 'fire where you see the long grass shake, if he rises before you.' Just at that moment the bishop's Elephant stamped most violently. 'There, there!' cried the mohaut. I saw his head; a short roar, or rather a short growl, followed, and the motion of some animal was seen stealing away through the grass. I fired as directed," continued the bishop, "and a moment after, seeing the motion still more plainly, fired a second barrel. Another short growl followed, the motion quickened, and was soon lost in the more distant jungle. Mr. Boulderson said, 'I should not wonder if you had hit him that last time; at any rate we shall drive him out of the cover, and then I will take care of him.' At that moment the attendant crowd of horse and foot began to run off in all directions. We hastened to the place, but found that the alarm was a false one; in fact, we had seen all that we were to see of the Tiger, though we went twice more through the jungle. A large extent of high grass stretched out in one direction, but this we had not now sufficient daylight to explore. Whether the animal so near me was really a Tiger," adds the narrator, "I have no evidence but its growl, the

collector's opinion, the assertion of the mohaut, and the alarm expressed by the Elephants."

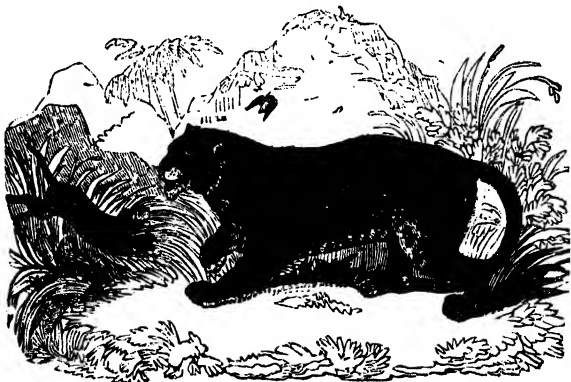
In reply to Bishop Heber's inquiry of the collector, if Tiger-hunting was generally of the same kind, he was informed by that gentleman, that except when under very peculiar circumstances, or when a Tiger felt himself severely wounded, and was roused to revenge, his aim was to remain concealed, and to make off as quietly as possible. It was after he had broken cover, or when at bay, that the serious part of the affray commenced. He then sprung out to meet his enemy, open-mouthed, like the boldest of all animals, a mastiff-dog, and was shot with little trouble; but, if missed, or only slightly wounded, he was truly formidable. To which we may add, from the same authority, that, though not swift of foot, he can leap with amazing strength and violence: and that his large head, immense paws, and the great weight of his body in front, often enable him to spring on the head of the largest Elephant, and pull him to the ground. When a tiger attacks one of these huge creatures, the latter is generally able to shake him off; and then woe be to him! the Elephant either kneels and crushes him at once, or gives him a kick which breaks half his ribs, and sends him flying, perhaps twenty paces. But a large old Tiger sometimes clings too fast to be so dealt with, and the Elephant is dreadfully torn: thus circumstanced, it often happens that the Elephant himself falls, either from pain, or with the hope of rolling on his enemy; and the riders are then in considerable danger, both from friends and foes. Moreover the scratch of this fierce creature is occasionally attended with inflam-

matory symptoms, though this rarely happens; and, in general, both wounded men and animals soon recover.

Besides the Royal Tiger, whose biography has been already given, Asia and Africa afford other species of this genus, all differing from the Tiger, and from each other. Among these, the Panther, Leopard of India, Common Lynx, Caracal, and Serval, are some of the most conspicuous.

THE PANTHER; (*Felis Pardus*.)

THE Panther has a ferocious air, a cruel aspect, considerable activity, and a restless cry, similar to that of an enraged dog, but deeper and more hoarse.



THE PANTHER.

In size and shape he somewhat resembles a mastiff, but his legs are not so long. Man may be said

rather to subdue, than to domesticate him; and, though trained to the chase, his unconquerable temper frequently breaks forth in acts of ungovernable violence. He is confined to Northern Africa, and lurks in her deep, primeval forests, whence he springs upon the unsuspecting animals, as they pass beside the covert, and bears them, with successive boundings, to his den. He was known among the ancients, in common with his sanguinary brother, the Leopard, by the appellation of *Pardus*. Such incredible numbers were exhibited in the cruel sports of the arena, that, to supply them, it seemed as if the deserts of Africa must have been exhausted of their fierce inmates.

Yet even this sanguinary creature has been tamed. We owe to the interesting pen of Mr. Bowdich, the following pleasing instance of domestication in a Panther; a striking proof that the most ferocious tempers may be softened. He and another were found, when very young, in the forest, apparently deserted by their mother. They were taken to the king of Ashantee, in whose palace they lived several weeks, when the Panther in question, being much larger than his companion, suffocated him in a fit of romping, and was then sent to Mr. Hutchinson, the resident left by Mr. Bowdich at Coomassie.

This gentleman, observing that the animal was very docile, took pains to tame him, and in a great measure succeeded. When he was about a year old, Mr. Hutchinson returned to Cape Coast, and had him led through the country by a chain, occasionally letting him loose when eating was going forward; when he would sit by his master's side, and receive

noise, came to her assistance, and rebuked Sai for his unreasonable intrusion.

This interesting animal was fed twice a-day; but, lest his sanguinary propensities should be excited, strict orders were given that he should not be allowed to prey on any living thing. He stood about two feet high, and was of a dark yellow colour, thickly marked with black spots, and his fur shone like silk. The expression of his countenance was very animated and good-tempered, and he was particularly fond of children. He would lie down beside them when they slept, and even the infant shared his caresses. During the period of his residence at Cape Coast, Mr. Bowdich was much occupied in making arrangements for his departure from Africa, but generally visited his companion every day, and they, in consequence, became great friends before they sailed. He was conveyed on board the vessel in a large wooden cage, thickly barred in front with iron. Even this was not deemed a sufficient protection by the canoe-men, who were so alarmed at taking him from the shore to the vessel, that, in their confusion, they dropped cage and all into the water. For a few minutes, poor Sai was given up for lost, but some sailors jumped into a boat, and dragged him out in safety. The beast himself seemed completely subdued by his ducking, and as no one dared to open his cage to dry it, he rolled himself up in one corner, nor did he take any notice till after an interval of some days, when he recognised his master's voice. Upon Mr. Bowdich's first speaking, he raised his head, held it on one side, then on the other, to listen; and when he came fully into

his view, he jumped, on his legs, and appeared frantic; then rolled himself over and over, howled, opened his enormous jaws, cried aloud, and seemed as if he would have torn the cage to pieces. By degrees, his transport subsided, and he contented himself with thrusting his paws and nose through the bars of the cage, in order to receive his caresses. Apparently, he had suffered from sea-sickness, as he seemed to loathe all food, but he soon recovered, and ate as usual.

Sai was enthusiastically fond of lavender-water; and having once caught hold of a gentleman's scented handkerchief, he immediately tore it to pieces. Nor was it safe to open a bottle of perfume when he was near, so eager was the noble creature to seize on, and to enjoy it. Twice a week Mr. Bowdich used to indulge him by making a cup of stiff paper, pouring a little lavender-water into it, and giving it to him through the bars of his cage. Nothing could then exceed his joy; he would drag the paper cup towards him with the greatest eagerness, roll himself upon it, nor rest till the smell had evaporated. Yet, notwithstanding all his ardour to possess the expected treasure, Mr. Bowdich taught him to put out his claws without showing his nails, always refusing him the lavender-water till he had drawn them back again; and thus instructed, he soon learned never to protrude his claws when offering his paw.

The vessel lay eight weeks in the river Gaboon, where he had plenty of food, but was never suffered to leave his cage, on account of the deck being always filled with black strangers, to whom, most probably on account of some real or imaginary

offence, he had a decided aversion, although perfectly reconciled to white people. His indignation was, however, constantly excited by the pigs, who often ran grunting by his cage; and the sight of a monkey put him into a complete fury.

One day, an Orang-Outang was brought for sale, and lived three days on board. Never can the inmates of the vessel forget the ludicrous scene which then took place,—the uncontrollable rage of the one, the agony of the other, at this meeting. The wild man of the woods was about three feet high, and very powerful in proportion to his size; so that when he fled, with extraordinary rapidity, on meeting Sai's angry glance, to the further end of the deck, neither men nor things remained upright if they opposed his progress; tall sailors were overturned like nine-pins, and boxes and baskets whirled in all directions. At length, he took refuge in a sail; and, although generally obedient to his master's voice, force was necessary to make him quit the shelter of its folds. As to Sai, his back rose in an arch, his tail was stiff and elevated, his eyes flashed, and as he growled, he showed his huge teeth; then, as if forgetting the intervening bars, he tried to spring on the Orang to tear him to atoms. It was long before he became composed; day and night he appeared to be on the listen; and the approach of a large Monkey, which was on board, continually renewed his agitation.

At length the vessel sailed for England, with an ample supply of provisions for the several kinds of inhabitants on board, but unhappily, it was boarded by pirates, and nearly reduced to starvation. Sai

suffered with the rest, and must have perished had there not been a collection of more than three hundred parrots on board. These died very fast while the vessel was in the north-west trade wind; and from these the poor Panther was furnished with one daily; but this allowance was very scanty and he became so ravenous, that he could not stay to pick the feathers off, before he commenced his meal. He, in consequence, soon fell ill, and refused to eat. Those around tried to convince his master that poor Sai was suffering from a colder climate; but his dry nose and paws bore testimony that he was feverish. He was then taken out of the cage; but, instead of being pleased, and jumping about, he lay down, and rested his head on his master's feet. Mr. Bowdich then made up three calomel pills; and a boy to whom poor Sai was much attached, succeeded in opening his huge mouth, and the medicine was pushed down his throat. Early next morning Mr. Bowdich visited his patient, and found his guard sleeping in the cage with him. A further dose was then administered, and the invalid was perfectly cured by the evening. On the arrival of the vessel in the London docks, Sai was taken ashore, and presented to the Duchess of York, who placed him in Exeter-Change, to be taken care of till she went to Oatlands. He remained there for some weeks, and was allowed to roam about the greater part of the day without restraint. On the morning previous to the Duchess's departure from town, she went to visit her new pet, played with him, and admired his fine appearance and gentle deportment. In the evening, when her royal highness's coachman went

to take him away, it was found that the poor creature had died from inflammation of the lungs.

THE LEOPARD, (*Felis leopardus*.)

As the Panther is assigned to Northern Africa, so is the Leopard to the central regions of that vast continent. In manner and disposition, he closely resembles his fierce relative; but we do not learn that he has ever been tamed. His eyes are fiery, and continually in motion; his aspect cruel, and indicative of a perpetual thirst for blood. In size, he is somewhat larger than the Ounce, though smaller than the Panther; and he is clothed in a fur less brilliantly spotted.

THE CHETAH, (*Felis jubata*.)

THE Chetah, or Hunting Leopard, belongs to the feline group, but differs materially from the rest of its tribe; it is much more tractable in its nature, and in its organization approaches, in some respects, the dog tribe: it is about the size of a large dog, and endued with all the suppleness and elasticity, the trenchant teeth and powerful jaws of his fierce relatives, he is yet wanting in their leading weapons of defence. His claws, though apparently strong, and well adapted for either aggression or defence, are utterly incapable of being drawn into a sheath; they are, consequently, exposed to the friction of the ground; become worn and blunt, and inefficient for purposes of warfare. Partially deficient, therefore, in the physical powers of his kind, he is also equally divested of extreme ferocity.

Of a slight and agile figure, calculated, apparently, rather for speed than strength, he assimilates in a very remarkable degree to the canine species, and like them, is endued with a certain aptness, or capability for field sports. He is, therefore, strictly speaking, intermediate between the Dog and Cat races; and we seem to pass, by a natural transition, from the latter, through this species, to the former. He also exhibits the first step, or remove, from the perfect fitness for carnivorous and predatory habits, in the loss of the retractile power of the talons.

M. Cuvier says of the individual which gave rise to these remarks, that, except in regard to that distrust which is so common in the purring race, he had all the habits of those animals,—playing in the same graceful manner, and with the same address; and that he exercised his paws with equal adroitness,—striking any small moving body with one foot, and seizing his food in both. In short, he was altogether a cat, and differed only from his kind in a greater degree of confidence, and all its natural consequences. Familiar with every one, he was always ready to make that slight noise which we call purring, when either noticed or caressed.

How savage he might have been in his native haunts, we have no opportunity of knowing. He was taken young, early domesticated, and accustomed to associate familiarly with children and animals. In his passage from Senegal, he was equally free; and while in France was kept, during Summer, in a park, where he had the opportunity of amusing and exercising himself. When the weather was cold, or inclination led him to the

house, he intimated his wish by a frequent mewing, which he also used to express affection, thirst, or hunger.

This specimen was taken in Africa. The species are also said to be found on the Asiatic continent. Zoologists are inclined to think that there are two distinct races of Canine Cats; the one with a mane, the other without; the former proper to Africa, the latter to India.

The Hunting Leopard, when about to be employed in the chase, is conveyed, hoodwinked, in a carriage, or on a pad behind the saddle of a horseman. Antelopes are his most frequent quarry, and when these are started, the hood is taken off, and he is sent forth in pursuit. He follows them by leaps or bounds, but if unsuccessful after a few efforts, he declines the course, and returns disappointed to his keeper.

THE OUNCE, (*Felis uncia*.)

THE Common Ounce is consigned by the same unerring law as that which restrains his fierce brotherhood in their respective habitats, to Persia; where he is used in hunting. As his scent is imperfect, he follows chiefly by the eye, and is so remarkably nimble, that he can clear a wall of many feet. He is often seen in the thick foliage of high trees, and from thence to dart upon his prey. This habit is common to the Leopard and Panther.

THE SERVAL.

THE untameable and rapacious Serval recognises Southern Africa as his abode. The Caracal wanders

at large throughout the northern parts of Africa; the south-eastern portions of Asia, and especially of Bengal. The Common Lynx inhabits the cold and temperate regions of the globe; residing in thick woods, and preying on their inmates.

THE LYNX, (*Felis lynx*.)

THE Common Lynx labours hard for his support, in all those countries that are inhabited by his fierce relatives, the Panther, Ounce, and Lion. Like them, he lives by rapine, but, being smaller and less athletic, he is generally obliged to remain contented with what they leave. He keeps at a respectful distance from the Panther, because that remorseless animal is equally cruel and rapacious; but it is said that he follows the Lion, who is supposed never to injure any one after a full repast. Even should the king of beasts be inclined to punish his intrusions, he can spring to the top of some high tree, and wait patiently till the royal anger is appeased. But, in general, his services are acceptable, for the Lion's scent is by no means acute, while that of the Lynx is remarkably keen; and thus, while he leads on to the prey, it is but fair that he should obtain a portion of the spoil. Hence he has also been denominated the Lion's Guide or Provider; and when he gives the alarm, his cry resembles that of one person calling, in a shrill and indistinct manner, to another. In Persia, he is tamed for the chase, and exhibits much adroitness in the pursuit of smaller quadrupeds, as well as herons, cranes, and pelicans.

ORDER RODENTIA.

WE now proceed to a very extensive and important order, that of the *Rodentia*; and in this we shall have to recognise a striking variety of instincts and habits. One, as the Jerboa, or Gerbelli, leaps to a surprising distance; another leads a subterraneous life; a third is so constructed as to reside on the highest trees. Some feed on vegetables; others partake of the carnivorous character. Many are thought to be injurious, in their general habits, to the industry and property of mankind; and yet a large proportion furnish both food and clothing. Among the former are the Hamsters, Field-Mice, and Rats; among the latter, Marmots, Squirrels, Beavers, Hares, Rabbits, and Chinchillas. They are said, in general, to be stupid animals, yet the Rat and Beaver afford exceptions. The several genera are spread abroad over the whole habitable globe; and some species have followed man in all his migrations. They are generally a provident race, laying up magazines for Winter use, and are very exact in the construction of their dwellings.

THE CHINCHILLA, (*Chinchilla lanigera*.)

THE beautiful fur of the Chinchilla, which exceeds in warmth and softness that of any other animal, has long been known as an expensive and useful article in the dress of ladies; but, well known as it was in commerce as a valuable fur, no information had been obtained as to the animal that furnished it, until within this few years. The first Chinchilla that

arrived alive in England was brought by the late expedition to the north-west coast of America, under the command of Captain Beechey, and was presented by him to the Zoological Society. An entire skin, rendered particularly valuable in consequence of its having the skull preserved in it, was brought at the same time, and is now in the British Museum.



THE CHINCHILLA, (*Chinchilla lanigera*. Benn.)

Naturalists being thus furnished with the means of examining both its structure and habits, have ascertained that the Chinchilla belongs to the *Rodentia*, or gnawing animals, and that it is a species intermediate between the hares and the jerboas. By some authors it had been considered a species of squirrel, others called it a rat; among these was

Molina, the Italian naturalist, who describes its habits in the following manner.

“The Chinchilla is another species of field-rat, in great estimation for the extreme fineness of its wool, if a rich fur, as delicate as the silken webs of the garden-spiders, may be so termed. It is of an ash gray, and sufficiently long for spinning. The little animal which produces it is six inches long from the nose to the root of the tail, with small pointed ears, a short muzzle, teeth like the horse rat, and a tail of moderate length, clothed with a delicate fur. It lives in burrows underground in the open country, in the northern provinces of Chili, and is very fond of being in company with others of its species. It feeds upon the roots of various bulbous plants, which grow abundantly in those parts, and produces, twice a year, five or six young ones. It is so docile and mild in temper, that if taken into the hands, it neither bites, nor tries to escape, but seems to take a pleasure in being caressed. If placed in the bosom, it remains there as still and quiet as if it were in its own nest. This extraordinary placidity may possibly be rather due to its timid nature. As it is in itself peculiarly cleanly, there can be no fear of its soiling the clothes of those who handle it, or its communicating any bad smell to them, for it is entirely free from that ill odour which characterizes the other species of rats. For this reason it might well be kept in the houses with no annoyance, and at a trifling expense, which would be abundantly repaid by the profit on its wool. The ancient Peruvians, who were far more industrious than the

modern, made of this wool coverlets for beds and valuable stuffs."

Since the arrival of the specimen we have already mentioned, another individual was added to the collection of the Society; this differed somewhat in the colour of its fur from the first, and was also larger. When the new comer was first introduced into Bruton-street, it was placed in the same cage with the other specimen, but the latter appeared by no means disposed to submit to the presence of the intruder. A ferocious kind of scuffling fight immediately ensued between them, and the latter would unquestionably have fallen a victim, had it not been rescued from its impending fate. Since that time they have inhabited separate cages, placed side by side, and although the open wires would admit of some little familiarity taking place between them, no advances have as yet been made on either side.

These specimens, however, are dead, and we are not aware that at present there is a living Chinchilla in England.

THE BEAVER, (*Castor fiber.*)

BARON CUVIER appropriately commences this interesting order with the Beaver, an animal that far transcends his brethren in intelligence. Yet the social disposition which induces this indefatigable race to associate together, and even to adopt measures for defence, is doubtless the result of an instinct implanted in them, and is not acquired by experience.

☐ Condemn these animals to a solitary state; isolate

them from their fellows, render the exertion of their instinct unnecessary, and they no longer seem possessed of their wonted power. His instinct remains, but his individual wants being alone developed, he exhibits none of those social virtues which characterize his tribe. Brought up in society, he lives and labours harmoniously with his companions; remove him from that influence, and he seems to exist only for himself. Many Canadian Beavers, that have been confined in menageries, strongly illustrate this observation. It is recorded that several of these animals, when taken young, and shut up in a solitary manner, in narrow cages, could never habituate themselves to obedience. Whenever attempts were made to reconcile them to each other, a furious combat ensued, and it was necessary to interfere. One of them was, nevertheless, extremely mild; accustomed to the presence of his keeper, he never objected to be caressed, or carried from place to place; nay, he was even on good terms with the dog, yet he could not endure the society of his captured relatives.

The captive Beavers retained so much of their native character as to be fond of water, and to steep their food in it. They used to gather and to heap into a corner all the light substances they met with, as straw, and the remains of their provisions; in a word, everything within their reach. Thus was the instinct of building strongly manifested, though in a captive state. The one of whom we have spoken, as remarkable for the mildness of his disposition, exhibited none of these characteristics. He never occupied himself in building, nor

would he bathe, nor dip his food in water. He slept a good deal, and rarely exhibited either joy or anger; but he did not like to be left alone, and always kept close to the persons who took care of him. Sometimes he emitted a soft and feeble sound, when annoyed at being handled, or wishing to follow those who quitted him. He used also to reply, when called, for he had learned to recognise his name, or rather the voice of his master; a circumstance that places him above many of the *Rodentia*, which, according to our ideas, are often extremely stupid. His deficient instinct must be attributed to his captivity, or rather to his domestication, at a period of extreme youth. For nothing, in fact, can more completely arrest the development of the instinctive faculties than perfect security, and the gratification of every want. The muscles of the body require motion to develop them, the powers of the mind, exertion.

In walking, the Beaver uses only the toes of the fore-feet, while he rests on the earth the entire soles of the hinder. In repose, he usually rests upon his tail, which he gathers between the hind-feet. His voice, according to M. Cuvier, consists, when he is agitated or distressed, at first of a low, dull sound, and it afterwards assumes the character of a bark. Captain Sir John Franklin relates, in his interesting narrative, that a gentleman, when about to shoot a Beaver, was prevented from doing so by the resemblance of its cry to that of his own children.

These animals, though living in peace among themselves, are very hostile to the Otter, and will

not allow him to dwell in their vicinity. The value of their fur is well known as an article of commerce: this consists of two kinds of hair; the one, which is short and bushy, remarkably fine, and impervious to water, growing next the skin; while the other, of a firmer texture, longer, and less abundant, serves as a surtout, to defend them from dust and dirt. Savages clothe themselves in these skins, and, during Winter, they turn the shaggy side inward.

Beavers are well known in different portions of the globe: in America from the thirtieth degree of north latitude to beyond the sixtieth: in Europe they are most abundant towards the northern regions; and gradually decrease as we journey south: hence they are rarely seen in Spain, France, Italy, Greece, and Egypt. Some ancient naturalists relate, that they were met with on the shores of the Pontus Euxinus (the *Black Sea*), and were distinguished by the appellation of *Canes Ponticæ*, or Pontic Dogs. But the wonders of their republic were unknown. Even Pliny, whose bold, sublime, and melancholy genius frequently induced him to depreciate the species of which he constituted so bright an ornament, and to exalt the inferior orders of the creation, would not, had he been acquainted with their policy, have abstained from comparing the labours of Romulus to those of the Beaver. Their republics, therefore, though rising occasionally along the shores of the Pontus, could never have arrested the attention of that distinguished naturalist. Then, as now, they doubtless inhabited such isolated spots as were surrounded with high trees, and hence they re-

mained concealed; a few captives might give notice of such a tribe, without leading to the discovery of their internal policy.

These indefatigable creatures generally prefer the margins of lakes and rivers, though occasionally residing on the coast, or rather on such gulfs as receive a large body of fresh water, and are consequently less saline than the open sea. Those who traverse the banks of the Canadian rivers, or the northern parts of Asia, may observe the Beavers beginning to assemble in great numbers, during the months of June or July, for the purpose of establishing a commonwealth. The place of rendezvous is commonly the station fixed for this purpose. If verging on a lake, of which the waters rise above their ordinary level, the skilful engineers do not erect a dam; if beside a brook or river, where the waters alternately fall or rise, they throw up a bank, and thus construct a reservoir, which uniformly remains at the same height. This bank, which resembles a sluice, and is frequently from eighty to one hundred feet in length, by ten or twelve wide at the base, is even more astonishing with regard to its solidity than its magnitude. For the purpose of constructing it, they select a shallow part of the brook or river; and if they find on the margin a large tree, so situated as readily to fall into the water, they begin to cut it down. But how, it may be asked, is this effected? Their fore-teeth answer the purpose of a wood-cutter's hatchet, and they begin the work of felling at a foot and a half above the ground: while thus employed the labourers assume a sitting posture. Independent of the conve-

nience of this position, they enjoy the pleasure of gnawing the bark and wood, which is grateful to their taste, and which they prefer to any other diet.

While some of the most able are employed in felling large timber, others traverse the banks, and cut down the smaller trees, then dress, and shorten them to a convenient length, drag them to the margin of the river, and convey them by water to the place where the building is carrying on. And here it is worthy of observation, that these trees are uniformly of a light and tender kind. You will never see a Beaver attack the heavy and more solid timber. Their great object is to select such as may be easily barked, cut down and transported; and hence they prefer the alder, willow, or poplar, which grow beside the margin of their favourite rivers. They sink the stakes into the water, and interweave the branches with smaller stakes,—an operation which implies the surmounting of many difficulties; for in order to dress the stakes, and to place them at first in a situation nearly perpendicular, some of the labourers must stand upon the river bank, and hold the stakes with their teeth, while others plunge into the water, and dig holes in the bed of the river, to receive the points, in order to place them erect. While some of them are thus sedulously employed, others bring earth in their mouths, with which they fill the intervals between the piles. These piles consist of several rows of stakes; and thus they work on, standing on the bank, as it is completed. The stakes facing the pond are perpendicular, whilst the others, which have to sustain the pressure of the water, slope considerably; and thus the bank, which



is frequently at least ten feet at the base, narrows upwards. Consequently it has not only the necessary thickness and solidity, but the most advantageous form for supporting a considerable pressure, for preventing the escape of the water, and repelling its efforts. Two or three sloping holes are also constructed near the top, in order to allow the superfluous water to run off, and these they enlarge or contract according as the river falls or rises; when any breaches occur by sudden or violent inundations, the industrious architects know how to repair them as soon as the water subsides.

This is their great work. The next care is to construct their dwellings. These are uniformly erected upon piles, near the margin of the pond, and have two openings, one facing the land, another the water. They are either round or oval, varying from five to eight or ten feet in diameter. Some consist of three or four stories, with walls of two feet thickness, and are raised perpendicularly on planks, or stakes, which answer the double purpose of floors and foundations; others consist only of one story, and then the walls are low in proportion, curved at the base, and terminating in a dome or vault. But however varying in height, they are uniformly of such solidity, and so neatly plastered both within and without, that they are impenetrable by the rain, and resist the most impetuous winds. The partitions, too, are covered with a kind of stucco, as well executed as if by the hand of man; their tails serving them for trowels, their feet for plastering. In the construction of these buildings, various materials are used; wood, stone, and a kind of sandy

earth, not easily acted on by water. When finished, they resemble the kraal of a Hottentot, and are carpetted with verdure, or branches of the box and fir. The opening that faces the water answers the purpose of both a balcony and baths, for here they bathe, enjoy the Summer breezes, and delight to spend their leisure hours, sitting half sunk in the water, and looking complacently over the open country. This window is constructed with the utmost care; the aperture is sufficiently raised to prevent it from being stopped up by the ice, which in the Beaver's climate is often two or three feet thick. Should this occur, the busy masons set to work, slope the sill of the window, cut obliquely the stakes which support it, and thus open a communication with the unfrozen water. This element is so necessary, or rather so agreeable, that even a temporary privation appears to distress them.

During the Summer months, they sedulously employ themselves in collecting an ample store of wood and bark for Winter provender. Each cabin has its magazine, proportioned to the number of inhabitants; this they share in common, and never pillage their neighbours. Some villages consist of twenty or thirty cabins. But such establishments are rare, and, generally speaking, the little republic seldom exceeds ten or twelve families, of which each has its own quarter of the village, its magazine, and separate habitation. The smaller cabins contain from two to six, the larger from eighteen to twenty, and even thirty Beavers. But as the parties are generally paired, it is calculated that each society consists of one hundred and fifty or two hundred,

who at first labour jointly in raising the great public building, and afterwards in select tribes or companies, to construct particular habitations. In this society, however numerous, universal peace is maintained. Their union is cemented by common labours, and rendered perpetual by mutual convenience. When danger approaches, they apprise one another by striking their tails on the surface of the water, the noise of which is heard at a considerable distance, and resounds throughout their numerous habitations. In a moment, they are gone; some plunge into the lake,—others intrench themselves within their walls, which can be penetrated only by the fire of heaven or the arms of men, and which no animal attempts either to open or overcome.

The members of this happy republic generally assemble in the beginning of the Summer, and employ the months of July and August in the construction of their banks and cabins; they also occupy themselves in collecting bark and wood, and afterwards enjoy the comforts of domestic life. This is their season of repose; knowing and loving one another from habit, and the pleasures and fatigues of mutual labour, each selects his companion, with whom he resides on terms of equality. They pass the Autumn and Winter under one roof, and never separate, unless occasionally to bring in supplies of fresh bark. When the females are occupied in domestic cares, the males retire into the country, where they enjoy the pleasures and the fruits of the Spring, returning occasionally, as if to assure themselves that all is going on well at home. The mothers, meanwhile, continue in their cabins, occu-

pied in nursing, rearing, and training their young; which, at the end of a few weeks, are sufficiently grown to follow their dams. They then make little excursions in their turn, in order to recruit themselves by eating fish and tender bark; and thus, in ease and alternate labour, they pass the Summer upon the water, and in the woods. Should any accident happen to their banks and cabins, they collect together, and repair the breaches. Even after their labours have been mercilessly destroyed, they have been known to return annually, hoping to regain their settlements, till, harassed by incessant labours, or weakened through the loss of several of their members, they seemed unanimously resolved to change their abode, and to retire into solitudes still more profound. But after their village is completely ruined, and their numbers lessened, the society is sometimes too much reduced to admit of a fresh establishment, and those which escape death or imprisonment, disperse. Their genius paralyzed by fear, seems unable again to expand; they hide in hollow places, neglect their accustomed masonry, and, sinking to the condition of other animals, lead a timid and solitary life. Occupied by urgent wants, and solely exerting their individual powers, they entirely relinquish those social qualities which have excited the admiration of natural historians. Yet still, it seems that a lingering fondness remains for the comforts of social life; and many a vain effort is made to prepare a habitation that may bear some resemblance to their once loved and now deserted village. This longing is even conspicuous in a captive state.

Marvellous as the society and the operations we have described may appear, it is impossible to disprove their accuracy. The facts are mentioned by numerous eye-witnesses. The works of these animals have been repeatedly examined, measured, drawn, and engraven. What is still more convincing, some of these singular works still subsist, though less common than when North America was first discovered; they have been seen by men deserving of confidence, who have visited the northern regions of that vast continent.

But if any further proof be wanting of their extraordinary sagacity, we may notice the following, which recently occurred in the Garden of Plants, at Paris. A Beaver who lived there, was furnished during a severe Winter with fresh twigs and apples; a kind of food so grateful to the captive, that it was thought he might be reconciled to his lot. One cold night a heavy snow-storm drove him into his house, and was, apparently, no small annoyance to him, as all his sagacity was called forth to remedy the inconvenience. For this purpose, he cut his twigs into proper lengths, and wove them, basket fashion, between the bars of his cage,—chopped his apples in pieces, and filled up with them the interstices; but as this was not sufficient to keep out the sleet, he kneaded the snow between the openings.

Beavers are found on the Lapland Alps, as high as two thousand three hundred feet below the line of perpetual snow. In reference to which we may remark, that, as the geography of the animal creation is intimately connected with the general object of the work, we shall extract from the original obser-

vations of Dr. Wallenberg, such particulars of the respective zones of those Alpine regions as bear upon the different localities of their animal inhabitants. His remarks constitute a picture sketched by the hand of a great master, and are interesting, not only to the adept in natural history, but to every one who delights to contemplate the face of Nature under its most striking and unusual aspects. They are divided into eight sections, each of which describes a separate line of elevation.

On approaching the summit of the Lapland Alps, the traveller first arrives at the line where the spruce-fir disappears, three thousand two hundred feet below the limit of perpetual Winter. This tree previously assumed an unusual appearance, that of a tall, slender pole, covered from the ground with short, drooping, dark branches, and is a gloomy object in those desolate forests. The dwarf crimson bramble had already ceased to bring its fruits to maturity; but the beautiful cinnamon rose, the two-leaved convallaria, the common reed, the tufted loosestrife, which grows on the banks of Loch Lomond, and the dazzling white bedstraw, no longer vary the landscape, or adorn the borders of the northern lakes. This is the true station of the Winter colts-foot; the last beaver-houses are seen on the rivulets, and neither pike nor perch are to be found in the lakes higher up.

2 Zone. Near the utmost boundary of the Scotch fir, two thousand eight hundred feet below the line of perpetual snow, the delicate smooth speedwell displays its pale blue flowers; beyond this the Bear rarely perambulates, and the gwiniad and grayling

disappear from the lakes. Barley ceases to ripen; but small farms, the occupiers of which support themselves by grazing and fishing, are occasionally met with; at even a further elevation of four hundred feet, potatoes and turnips are cultivated.

3 Zone. Higher up, the dwarf and stunted forests consist only of birch, whose short thick stems, and stiff and widely-spreading branches, seem prepared to resist the strong winds from the north. As you ascend, they become still more stunted; and a little further, their topmost boughs may be surveyed from even a slight elevation. Their utmost boundary is two thousand feet below the line of perpetual snow. This zone is, consequently, much wider than the preceding. Many of the upland plants, which cheered the eye of the traveller, gradually disappear towards the boundary of the birch-forests; the mountain-ash, so highly esteemed by the Druids, and found more frequently than any other, around their ancient haunts in the Scotch Highlands, ceases to display its beautiful red berries; the dwarf crimson bramble produces not its fragrant fruit; the common heath no longer spreads like a purple light along the mountains. But the Reindeer lichen, a species of Alpine coltsfoot, and the *pedicularis* accompany the birch to its utmost boundary. Thus far only the char is found in the lakes; higher up all fishing ceases.

4. Another Zone succeeds. Its mountains rise to the dignity of Alps. Along the rivulets, and on the margin of the bogs, springs the solitary mountain-willow, whose gray hue affords but little ornament to the landscape, while the lower country is covered

with the dark-looking weeping-birch, which still retains its upright posture. But, though wisely regardful not to expose her children of the forest to the cold sweeping blasts of those high regions, Flora has spangled the rough soil with some of the loveliest of her offspring. Every hill is covered with the strawberry-tree (*arbutus*), bearing red berries; the more boggy ground, with the marsh cistus, in its greatest beauty: the mountain sides where the reflected heat has power, with the rich blue Alpine veronica, two-flowered violet, crisped fern, with its gracefully curled leaves, and the angelica (*archangelica*), so valuable to the wandering Laplanders.

This zone extends within fourteen hundred feet of the line of perpetual Winter, a barrier which the glutton never passes.

5 Zone. Now, no more brushwood relieves the eye. The white-willow, of which the bark is so efficacious in curing intermitting fevers, is rarely more than two feet high, and its relative the green whortle-leaved, is of still humbler growth. The hills are rather brown than green, with such creeping azaleas as give to this zone its most peculiar feature. A few scattered flowers occupy verdant spots between the precipices, where the sun has the greatest power, and cold blustering winds rarely visit; but the only berries which ripen at this degree of elevation, are those of the blackberried heath. The upper boundary of this zone is six hundred feet higher than the preceding, and beyond it the Laplanders scarcely ever fix their tents, as the pasture for their Reindeer ceases a little further up.

6 Zone. Here commences the reign of perpetual

Winter; but still, on the extreme verge of his dominions, a few dark, shrubby plants, lift their heads above the snow, while such green precipices as lie open to the sun are decorated with the vivid green tints of the gentian and campanula, tastefully blended with the yellow Alpine whitlow-grass. This zone extends two hundred feet below the limits of perpetual snow.

7 Zone. Further still, a few dark masses of broken rock start from the dazzling surface. Yet Flora even here asserts her empire, and wherever the spongy brown surface of earth is visible, and the reflected heat is strongest, directs her succulent-leaved children to mantle it with luxuriant vegetation; they furnish a scanty supply of food to such wild animals as occasionally frequent these high regions.

8. Above the line of perpetual snow, the cold is occasionally so much diminished, that a few plants of the Winter ranunculus, with others of their kind, are now and then visible. Higher up, the snow is rarely softened, yet some few lichens still occur, even to the further elevation of two thousand feet. This is the limit of the vegetable world. The snow-bunting is the only living creature that visits this elevated spot.

A similar arrangement of the animal kingdom is discoverable throughout the Alpine regions of this, and every other mountainous country. Bishop Heber thus elegantly notices the localities of several distinct species:—"During a visit which I paid," says this accomplished prelate, "to the glorious Himalaya mountains, I am not ashamed to say that the tears were more than once in my eyes, as I rode

through thickets, the very air of which breathed England, and by streams, and little mountain-lakes, as cold, as black, as clear, and noisy, as if they had issued from Snowden, though the spell was dissolved from time to time by the sight of mountains such as Europe has not to show, and by the occasional glimpses of the still lower valleys, dark with the exuberant foliage of an Indian wood, and abounding in the usual Eastern accompaniments of monkeys, gigantic snakes, and malignant vapours.

“These Snakes and Monkeys are found but a little way up the hills, while on the other hand, the Chamois is not seen below the highest peaks of the secondary range. It is nearly the same in size and colour as those of Europe, though apparently more shaggy, and better protected against the cold; more in fact, like the Common Goat, with larger horns. The Yak, or Thibet Cow, pines away, when removed from the neighbourhood of its native glaciers. The Musk-Deer is found only in the highest and coldest parts of the province, and in the neighbouring countries of Thibet and Tartary. It cannot even bear the heat of Almorah. The Shawl-Goat will live in those high regions, but its wool degenerates, affording a very unfavourable presumption as to the event of the experiment for colonizing them in Europe, which has been tried in France on a large scale. Beautiful flying Squirrels are not uncommon in the colder and higher region of the woods. Two of these elegant quadrupeds were in the possession of Mr. Adam and Lady Colquhoun. They were as tame as their brethren usually are, and had all the habits of the European species, though somewhat

larger, or perhaps appearing so, from the folds of loose skin, covered with beautiful, soft, and thick fur, which they extend at pleasure, by stretching their hind and fore feet.

“ But there are other animals to whom heat and cold seem equally indifferent. English dogs, impaired by the climate of the plains, improve in size, sagacity, and strength, among the Bhooteas, and what is very remarkable, they acquire in the course of one or two Winters, that fine, short, shawl-wool, mixed up with their own hair, which distinguishes the indigenous animals of the country. Such is also the case, in a considerable degree, with the horses that the Bhooteas bring down for sale: they are beautiful, shaggy, little creatures, like those of Siberia. The Tiger is found quite up the glaciers, of great size and undiminished ferocity, while the Bear, the Wolf, and the Hyæna also abound, wherever there is food and covert, from the lowest level of the Terrai, or marshy forest, at the foot of the hills, up to the edge of the ice, and even, it is supposed, beyond the passes into Chinese Tartary*.”

RATS, MICE, &c.

DESCENDING from these elevated regions to pursue the more immediate object of our research, we have now to speak of a predatory race, a formidable phalanx of rapacious animals, against which mankind have found it necessary to employ both artifice and force, in order to lessen their ravages, or set bounds to their aggressions. This is the genus *Mus*.

* *Tour through the Upper Provinces of India.*

In our own favoured island, the Field and Domestic Mice, and the Brown Rats, are the principal aggressors; but, on the continent, and in the hotter regions of Asia, Africa, and America, many obnoxious and formidable species exist. The different tribes vary considerably in their mode of life: some confine themselves exclusively to a vegetable diet; others devour with indiscriminate avidity both flesh and vegetables; some few species are migratory; others local, or attached to the same residence. They all move rapidly, and seek for quiet dwelling-places, in old barns, behind wainscotting, or in subterraneous retreats, whence they issue principally in the night.

The Campagnol, or Meadow Mouse (*Mus arvalis*), is common to this island, and is readily distinguished from the rest of the British species by the shortness of his tail.

This industrious little animal is a formidable enemy to the labours of mankind. Wherever the husbandman goes to work, there the Campagnol follows his steps, to profit by his labours. For this purpose large troops assemble in the corn-fields. But how, reader, do you suppose that they can reach the ripened heads? For the stalk is not firm enough to support their weight, and a field of waving corn is to them a forest, of which the topmost grain is hardly visible. But this grain constitutes their greatest luxury, and in order to procure it they very ingeniously cut the stalk near the root, and thus the prostrate ear affords them a ready supply. They also follow the reapers, and eat up the fallen grain; ~~but when~~ when the gleanings are devoured, they flock to

the new-sown fields, and destroy the crops of the ensuing year. In Winter, the bands separate, and unless impelled by hunger to prey one upon the other, they live contentedly on filberts, acorns, the seeds of trees, and tuberous roots, such as the dandelion, which they dig from beneath the snow. Their apartments, like those of the long-tailed Field-Mouse, are generally divided into two, but they are neither so spacious nor so deep. In these they bring up their numerous families; and it sometimes happens that several reside together.

The little freebooters are also very injurious to young plantations, by carrying off the new-sown acorns. They follow the furrows of the plough, and quietly remove them, one after the other; but to this they are generally impelled by necessity. When acorns are plentiful in the woods, they have no inducement to forage on the cultivated fields. The husbandmen, inwardly vexed to see long, unproductive furrows, where they expected the broad leaves of the young green oaks, place traps at the distance of about ten paces, through the extent of the sown field. These traps are flat stones, supported by a stick, and baited with a roasted walnut; the unwary Mouse, preferring the dainty viand to his usual homely fare, sits down to the repast, and, while thinking of anything rather than treachery, is, in a moment, crushed to death by the falling of the stone. Poor hapless Mouse! how many are thy enemies; how many begrudge thee thy acorn and hollow tree!

These animals are seen in almost every part of Europe, in Northern Russia, and Siberia. They are migratory, and, like others of their kind, they are

not stopped in their journeys by even deep and rapid rivers.

Such also is the case with the Economic Mouse, (*Mus economicus*, Pallas,) a sagacious little animal, inhabiting a chamber formed like an oven, and laying up a store of provisions for the Winter.

The migration of this species is not less extraordinary than those of the Lemming, and takes place at uncertain periods. Dr. Pallas imagines that the migrations of such as inhabit Kamtschatka, may arise from some sensation of internal fire in that volcanic country, or else from the prescience of a rigorous season. Whatever be the cause, the fact is certain. At such periods they assemble, during the Spring, in surprising numbers, excepting such as reside about the villages, where they generally procure some subsistence; which makes it probable that their migrations, like those of the Lemming, are owing to want of food. The mighty host proceeds towards the west, in a direct course. Nothing can impede their progress: they climb over rocks, cross extensive marshes, and intrepidly swim the most rapid rivers, lakes, and even arms of the sea. During these perilous migrations, some are drowned, and others are destroyed by water-fowl and fish; those which escape rest awhile to bask, to dry their fur, and to refresh themselves; they then set forth again. The inhabitants of Kamtschatka treat these little emigrants with the utmost tenderness; and when they find them ready to perish, they endeavour to refresh and restore them to life and liberty. Indeed none of the smaller animals are so much esteemed by the Kamtschatkadales. When their own provisions

begin to fail, they often resort to the hoards of the Economic Mouse, taking care, at the same time, to leave sufficient for their consumption, accompanied by some ridiculous present, as a kind of remuneration for the theft.

These little animals abound in Iceland, in the vicinity of Husafells, among beds of lava and beautiful glaciers, which look as if they had suddenly frozen in their descent from a long chain of ice-mountains. Nothing can be more extraordinary than the sagacity which these creatures display, both in conveying home their provisions, and the manner in which they stow them away in their Winter magazines. As the berries they feed on are thinly dispersed, they are often obliged to swim broad rivers in order to collect them, and, in returning with their booty, to repass the stream. But how, it may be asked, is this effected? The party, generally consisting of from six to ten, select a flat piece of dried and light dirt, on which they place the berries, having previously conveyed them, in dried mushrooms, to the place. Then, by their united strength they bring it to the water's-edge, and, after launching it, embark, sitting in a circle round the heap, with their heads joined over it, as if to protect the treasure, and their tails pendent in the stream, to serve the purpose of rudders.

Equally surprising is the descent of the Lemming tribe (*Mus lemmus*, Linnæus,) from the Alpine regions of Lapland and Norway. Unlike that portion of the feathered race which migrate at certain seasons, and observe the periods of their coming, these animals quit their upland haunts at uncertain

times, and descend into the plains below, where they devour the grain and herbage, and spread general dismay. These migrations occur once in ten years, and in some districts still more frequently. They are supposed to arise from a superabundant population, together with a deficiency of food, and perhaps a kind of instinctive preience of unfavourable seasons; nor is it unworthy of remark that their chief migrations have uniformly occurred in the Autumn of such years as have been followed by a severe Winter. The instinctive faculty which thus induces them to assemble from all parts, as if by general consent, collect into an army, and descend from the mountains in the form of a firm phalanx, moving on in a straight line, resolutely surmounting every obstacle, and undismayed by every danger, cannot be contemplated without astonishment. "We remember," says a friend, who related the extraordinary fact, "to have witnessed this interesting sight, when emerging, in Lulean Lapland, from a deep pine-forest, rendered pleasant by the tender leaves of the birch. On a sudden we discovered what appeared to us like a dark cloud, slowly descending the flank of a lofty mountain.

"It was early in the morning, and, when the mists were dispersed, and the beams of the risen sun had flung their wonted splendour over that Alpine district, we discovered that this unusual cloud was no other than an incredible multitude of Lemmings, that were marching toward the plain. Having stationed ourselves on the nearest eminence, we could readily discern the order and regularity of their course. They proceeded in a straight line,

and, as they passed, the ground appeared as if recently turned up with a plough; they devoured every green thing, and kept on in numerous phalanxes, forming parallel paths of one or two spans broad, at the distance of some ells from each other. In various parts the peasants had kindled fires, to impede their progress; in others, they had to cross ravines, impetuous torrents, marshes, and broad lakes; yet still they journeyed on in the same unerring line, undeterred by the peril of the way, and seemingly resolved that no danger should appal them. Hence the road they came was strewn with the dead and dying. At one place, a stack of hay or corn rose to impede them; this they ate through: at another, a rock intervened, which they were obliged to go round; but the moment the obstacle was passed, the whole company resumed their former straight direction. In crossing one of the lakes, some of the neighbouring farmers got into a boat, hoping to prevent them from landing on a field of corn. But no; though their phalanx was separated by oars, they would not recede; they kept swimming directly on, and soon fell into regular order again. The farmers, finding their efforts ineffectual, pushed their boat towards the shore and endeavoured to prevent the enemy from landing. Vain was their opposition. The Lemmings soon made good their footing, and on they went, devouring the green blade, and marking their progress with devastation. Some of the men attacked them, and then, driven to desperation, they rose up, uttered a kind of barking sound, flew at the legs of the assailants, and clung so fiercely at

the end of their sticks, as to suffer themselves to be swung about before they would quit their hold. .

Very few of the vast multitude return to their native mountains; some perish in the water, and swarms of enemies, hawks, owls, and weasels, attend their progress. It is scarcely possible to imagine a more beautiful spectacle than the march of these pigmy armies, and the surprising perseverance with which they pursue their course. The females are often loaded with their young; some carrying them on their backs, others in their mouths.

The LOIR or FAT DORMOUSE, has little externally to recommend him. He inhabits the forests of Southern Europe, springs merrily from tree to tree, and lives on nuts and acorns, like the Squirrel. He is also said to feed on nestling birds, and, like a true eremite, constructs his simple couch of moss in the hollow of some ancient tree or cave; he seems afraid of wet, drinks but little, and rarely descends upon the ground.

During the Spring and Summer he is all activity and life, but as soon as the cold sets in, the little fellow betakes himself to his leafy couch, and sinks into a torpid state. This results from the coldness of his blood, which rarely exceeds the ordinary temperature of the air; but, bring him into a warm room, he will be reanimated, and continue active the whole season. Naturalists frequently discover these sleepy creatures during the Winter in hollow trees, or in the holes of rocks and walls that are open to the sun. They look like little brown balls, warmly bedded in moss, and are so completely torpid as to admit of being rolled about. Yet they

are susceptible of pain, and if cruelly placed too near the fire, they make a slight convulsive leap.

If the weather at night be unusually mild, and the thermometer rises to twelve, thirteen, or fourteen degrees, the little sleeper has been known to awake, peep forth from his retreat, and to eat some part of the hoarded provisions that were reserved for his early awaking.

The BLACK RAT, (*Mus rattus*), like the Surmulot, or Brown Rat, appears not to be indigenous in Europe. The creature was, evidently, unknown to ancient naturalists; and the moderns go no further back than the sixteenth century. Gesner is, perhaps, the first who described the species. Had they been found early in Britain, or lived formerly as now, at our expense, it is hardly probable that all mention of them would have been omitted, especially as notices exist of other animals, though less destructive and remarkable, as the Mouse and Dormouse. Linnæus and Pallas conjecture that we received them from America, others from the East, and that they voyaged with our earliest navigators to the shores of the New World. Certain it is that they abound in all the warm and temperate regions of the globe, and that Persia is their favourite residence. Throughout the Western Isles their numbers are incredible, for there no chilling blast constrains them to the habitations of men, and the joyous fields are crowned with increase during the whole year. Great are the devastations they commit: the inhabitants regard them as a scourge, and endeavour by every possible means to lessen these rapacious hordes.

Concerning the BROWN RAT, or SURMULOT, (*M.*

decumanus,) it is worthy of remark, that the introduction of a species into regions new to them is usually attended with considerable difficulty. Man alone, aided by his reason, can turn the wilderness into a fruitful field, soften the most inclement seasons, and create a climate around him better suited to his wants and wishes than before. But the habits and instincts of the animal creation are never sufficiently flexible to enable them to supply new wants, and to adapt themselves to new situations. Unless especially protected by man, assisted by his foresight, and guided by his prudence, they generally perish, after a more or less protracted struggle. Yet there are some that derive from our habits all that is necessary to their well-being, and thus fall into the very situations we should have assigned them, if interested in their preservation.

Such is especially the case with the Surmulot. This sagacious animal came originally from the southern parts of Asia, and, instructed by his instinct, has established himself more completely amongst us, than we could have done by our intelligence. For certainly it must be confessed, that ineffectual efforts are daily made to naturalize such species as might be useful, and which, apparently, require much less attention than the Surmulots, whose wants are numerous. These animals, on the contrary, have introduced themselves, and multiplied amongst us, despite of every difficulty, and every endeavour to repel them. They have found beneath our roofs the temperature of their own more genial climate; in our cultivated fields, our granaries, the dairy, and the larder, an aliment suitable to their

mode of life. Were it otherwise, they must have perished from the cold of Winter, as they neither sink into a torpid state, nor hoard up provisions.

The Surmulot is larger than the Rat, less clumsy than the Beaver, and heavier than the Dormouse or the Squirrel. His movements are prompt and lively, he swims well, and climbs with wonderful dexterity. Instructed by nature to excavate a subterraneous dwelling, he digs with astonishing facility. Nothing can equal his perseverance; few obstacles can resist his efforts. He penetrates everywhere, pierces walls, and displaces pavements; and as he unites with his brethren in these multifarious labours, whenever they fix upon a dwelling-place, however strong the walls, the foundations are in no small danger. They eat animal and vegetable substances, grains, roots, and flesh, and though fragments are often found within the burrows, it does not appear that they lay up a Winter's store; yet Buffon asserts that the fathers of the family remain in the country during the cold months, and fill their granaries with corn and acorns. This assertion might lead us to conclude that their instinctive propensities varied according to circumstances; but the fact is not fully substantiated, and such a natural phenomenon cannot be received without being completely authenticated. When annoyed in their establishment by men and animals, they remove, and sometimes migrate to a considerable distance.

The organization of the COMMON MOUSE (*Mus musculus*,) is similar in all respects to that of the Rats. He possesses the same instincts, constitution, and disposition, and generally accords with them in

all their habits and modes of life, as far as the disparity of size and strength will permit, except, perhaps, that he is less resolute and energetic. Timid by nature, and familiar from habit, fear and want are the sources of all his movements; he never issues from his hole but in quest of food, and runs in again upon the slightest alarm. He does not wander, like the Rat, from house to house, unless urged by necessity; nor is he equally destructive. His manners are gentle, and he may be tamed to a certain degree, but he rarely, if ever, discovers any attachment to his keepers: nor, indeed, has he much reason: for to be pent and confined, as it were, in a narrow cage, is little adapted to call forth the kindly affections of the heart; nor is it very easy to love those who are perpetually laying snares for us. His life is one of danger and escape; though powerless and inoffensive, he has many enemies. The housewife dislikes him because he occasionally nibbles her cheese and butter; the well-trained mouser, taking the humour of his mistress, continually pursues him; and from these he has no other means of escaping, but those of agility and minuteness. Owls, birds of prey, Weasels, and even Rats, make war upon this timid little quadruped. He is, moreover, caught in traps, and destroyed by thousands. In short, the brotherhood exist only by their numbers.

Each family generally consists of five or six, and in less than fifteen days the young are able to support themselves. Another household is soon established, and this is as briefly succeeded by another.

These little animals are equally elegant and viva-

cious. They are generally diffused over Europe, Africa, Asia, and America.

He who considers the parasitic disposition of the Mouse in regard to man, and that he is exclusively a resident in all our habitations, will naturally wish to ascertain his habits, before the progress of human civilization had furnished him with his present means and modes of living. Analogy would lead us to conclude, that he resorted to hollow trees, clefts in rocks, and perhaps to the burrows of other quadrupeds, till he was provided with a more congenial domicile, but natural historians have recorded hardly any facts in support of such conclusion; and so completely are these little creatures attached to civilized life that they have migrated with mankind to every part of the known world.

But Mice, though colonizing in large numbers, cannot be called social animals, as each family lives alone. Several species belong to this vivacious tribe. Of one, we read that, carefully avoiding the haunts of men, he principally inhabits the European forests, and, occasionally, the dark pine-woods of Russia; where, like the Squirrel, he lays up a magazine of nuts, acorns, and different kinds of grain. Of another*, that he never forsakes the British shores, or else, that the most indefatigable continental naturalists have failed to discover him abroad; that he never willingly enters the habitations of men, though often carried with the sheaves into the farmer's barn or rick; that his nest is elegantly constructed with

* Harvest Mouse (*Mus messorius*.) Several species belong to this division, but little is known concerning them.

blades of wheat or straw, and often suspended in a thistle's head; lastly, that when the cold sets in, he excavates a commodious habitation under ground. Of all it may be truly said, that they are admirably adapted to their assigned localities.

The resources of nature are infinite. Nothing more strikingly evinces this than the various modes in which the operations of instinct are displayed. A fixed determination is often substituted in the place of reason, or else so blended with its faintest glimmerings, that the animals to which it is assigned seem to approximate to man, to equal, nay, to surpass him in foresight and sagacity; and what is still more wonderful, these faculties are usually accompanied by limited organs, and circumscribed mental qualities. But the operations of instinct are confined within certain bounds: whilst intelligence, always present, ever ready for action, extends to all circumstances, times, and places. The one never exceeds a certain barrier; the other often overleaps the dominion of the senses.

The COMMON HAMSTER (*Cricetus vulgaris*), or Marmot of Germany, presents a curious instance of extended instinct and bounded intelligence. He, feeble and disarmed, subsisting chiefly on farinaceous matter, conceals himself in complicated burrows, which he excavates in the midst of the champaign country; and, as if he foresaw the approach of Winter, and the period when the fields are to be stripped of their productions, forms in these burrows considerable magazines, and is thus enabled to await the return of Spring, and the maturity of harvest. In all other respects he is a stupid animal, subject

to the control of existing circumstances. In the solitude of the country he grows timid and ferocious. Brought up in captivity, he familiarizes himself with everything he sees and hears, but evinces no personal attachment. Yet the rolling of a stone, a heavy step, or the sudden appearance of a dog, make upon him but one and the same impression: he can, however, defend himself, and bite severely.

Sonnini tells us that, notwithstanding his apparent indifference, ferocity is his most obvious characteristic, that he respects neither superiority of strength nor size, man nor his canine associate, and that he will rather die than quit his hold. Fabricius states, that he has seen one of these fierce creatures leap on the muzzle of a horse, and retain a tenacious gripe till he was killed. When preparing to attack, he empties his pouches, which serve the purpose of large bags for carrying provisions, and inflates them to a surprising size; he then rises on his hind legs, and makes a furious onset at the object of his anger.

These creatures burrow in the ground, and lay up large stores of grain. They are carefully sought for by the farmers, who destroy them without mercy, and seize their magazines. In the environs of Gotha, it is said, that during a single year, eighty thousand have been killed; they were discovered by the quantity of earth accumulated at the entrance of their oblique excavations. Yet they are not merely granivorous; they eat flesh, and occasionally devour one another. Like all ferocious animals, each has his separate burrow, and no one intrudes upon the province of his neighbour. The young soon become

independent, quit the maternal shelter to excavate new dwellings, and live by their own resources.

These dwellings are admirably adapted to secure them from the aggressions of their enemies. Each burrow is provided with two entrances; one conducting to a slanting gallery, at the opening of which the animal throws out, and accumulates such earth as he is forced to remove; the other serving as a passage to a rectilinear canal, that opens immediately to the burrow. These two passages conduct to a greater or less number of particular excavations of a similar form, and which, according to the age of the animal, are from about two to five feet in diameter, communicating together by horizontal conduits. One of these, the retreat and nursery of the Hamster, is furnished with a good bed of dry herbs; the other is the magazine of provisions.

Each individual has his own separate abode. The males content themselves with two openings to theirs,—the females, more timid, form several passages, especially when their families are young, that they may escape more readily at the sound of hostile footsteps. Those which belong to the elders of the family, frequently embrace a considerable extent, are four or five feet in depth, and contain several bushels of corn. These careful engineers have many enemies: their dwellings are sought out as much to pillage their sacred hoards as to destroy the occupants, whose visitations during harvest are obnoxious to the farmer.

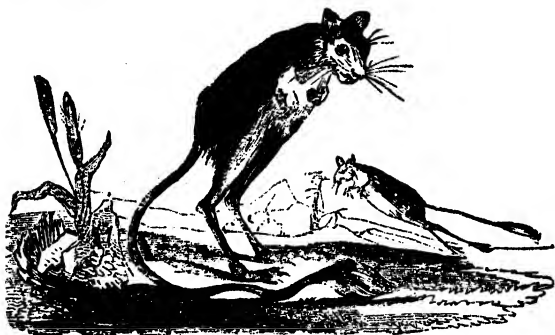
Some writers tell us that the Hamsters become torpid in Winter; certain it is, that during the cold months all the entrances to the burrows are closed.

They are remarkable for great personal neatness, and are often seen near their dwellings, employed in polishing and cleaning their hair. This they effect in the same manner as a cat, by moistening their paws, and then drawing them with great adroitness over their backs, heads, and shoulders. They climb rapidly, but run and walk heavily, remain inactive and concealed during part of the day, and at other times seem agitated, though without any cause for fear. Ever mindful of the future, should they meet with any favourite viand, they eat a part and reserve the rest.

These animals are scarce in France and about the Lower Rhine, though common to the northern portions of Germany, where the soil is similar to that of Poland and part of Russia. In short, they generally inhabit the sandy regions that extend from the North of Germany as far as Siberia; others of the same family and tribe reside in the latter country. These are the *Mus Arvenarius*, *Phæus*, *Songarus*, and *Furunculus*; each of which were discovered and described by M. Pallas.

Few particulars have reached us respecting the vivacious family of Gerboa, a tribe which approximates internally to the Rats, properly so called,—externally, in some obvious peculiarities, to the Kangaroo. Like them, they generally walk on all fours; but when terrified by any unusual sight or sound, they endeavour to escape by means of prodigious leaps, which they execute with equal activity and force. For this purpose they stand erect upon the extremity of their hind toes, support themselves with the tail, and press their fore-feet

closely to their breasts. In a moment they bound forward, and fall upon their fore-feet,—they then elevate themselves again; and all this is done with so much celerity, that the spectator can hardly convince himself that they are not constantly in an erect posture.



THE GERBOA, (*Dipus*.)

The genus is said to be exclusively confined to certain portions of the globe, and to be composed of several distinct species. One is abundant in Barbary, in Egypt, and in the more northern climates, situated between the Don and the Volga; others occupy large tracts in Siberia, and the upper portion of Russia, from Syria to the Eastern Ocean, as far as the northern parts of Hindostan. Those which inhabit Egypt live in troops, and dig burrows; they are restless and unquiet, without being wild, and run precipitately, on the slightest apprehension, to their holes. Like the Arabs of the desert they delight in heat and sand, while their

relatives, the *Alectaga*, which live in the same manner, prefer cold and fertile regions. These remain torpid during the Winter months, and, like the generality of their brethren, cannot endure captivity, or a change of climate.

Gerboas are also common in Syria and Arabia. They decrease as we advance towards the north, though extending in that direction as far as the countries situated between the Don and the Volga. Among these Pallas discovered his *Mus sagitta*, living in sandy hillocks, along the southern banks of the Irtysh.

But the sands and the ruins that environ modern Alexandria are their favourite resorts. Here they live in troops amid fallen palaces, and excavate their subterraneous dwellings in walks of ancient state. Sonnini tells us that they even pierce through the smaller fragments that lie scattered below the beds of sand; for they are indefatigable workmen, and their sharp nails and teeth serve them instead of mattocks. Unquiet, though not ferocious, they are alive to every sound, and when disturbed run precipitately to their holes. The Arabs frequently take them alive, by closing up their different galleries, and leaving but one place of egress. Their flesh, though not remarkably good, is esteemed by the Egyptians; their skins, the hair of which is soft and shining, is employed in the manufacture of ordinary furs.

Their relatives, the *Alectaga*, animals resembling in size the Common Squirrel, clothed in soft, pliant fur, beautifully varied with yellowish fawn, white, brown, and gray, inhabit the vast deserts of Tartary,

that border the Tanais, Volga, and Irtysh. Few and solitary, they also inhabit the sand-hills of that vast extent of country, which stretches from east to west, from the desert of Crimea, to the Argun; and from the fifty-eighth degree of north latitude to the tropics. There also the *Gerboa brachyma*, whose dimensions are nearly equal to those of the Common Lynx; and the Little Gerboa, scarcely larger than a Wood Mouse, excavate their subterraneous dwellings. There, too, we are told their heaps of provisions are spread out to dry, and then transported into their magazines. These heaps consist of herbs, or succulent plants, roots, fruits, small birds, and insects. The Creator, in assigning them to the lonely places of the earth, has also given them to eat of such provisions as trench not on the supplies of other quadrupeds. In the deserts, situated to the west of Tartary, they feed principally on tulip-roots; beyond Lake Baikal, on the bulbs of lilies.*

Equally active and sagacious, a few minutes are sufficient for the excavation of a burrow two or three inches deep; their fore-feet serving them as spades to shovel away the sand; their sharp teeth as bill-hooks, with which to cut off the matted roots. These burrows descend obliquely to about half an ell; they are cut perpendicularly, with several openings, that answer the purpose of breathing holes.

The least degree of cold reduces the *Alectagus* to a torpid state; and what is more remarkable, a great degree of heat produces a similar effect. They foresee the cold and rainy seasons, and close their burrows with astonishing celerity.

Nor less extraordinary is their fleetness. They scarcely seem to touch the ground; and, according to Pallas, they cannot be overtaken even by persons on horseback. Their tail serves as a resting point, when descending to the ground, and as a helm in their bounding leap, or rather flight. The Arabs, Tartars, and Calmucs, hunt them for their flesh.

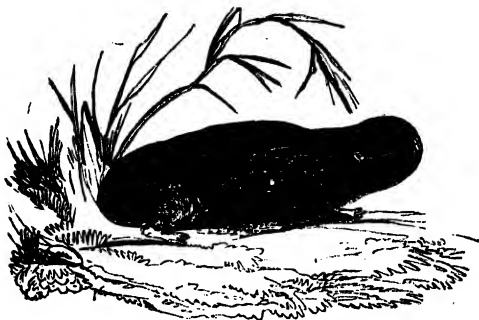
The closest affinity exists between the GERBELLI and Gerboas. Some naturalists consider them as long-footed Rats, and describe six species, four of which belong to the warm climates of the ancient continent, and two to North America. Their localities are fixed with the utmost geographical precision, and to these they most tenaciously adhere.

One, the Torrid Gerbillus, inhabits the sandy and burning deserts that border on the Caspian. There he burrows deep, and lives on nuts. His Egyptian brother has been met with near Memphis, coming out of a burrow, beside the Great Pyramid.

The genus *Phalax* (*Aspalax*) is separated from the comprehensive genus *Mus* of Linnæus. The species which compose it are destined to live underneath the ground, like Moles.

The ZEMNI, or BLIND RAT, to which Guldenstaedt applied the Greek name, *Spalus*, has been hitherto referred to the same family. Whether this species be absolutely blind, or whether it receive any perception of light from the medium of the visual organ, does not sufficiently appear. The presence of what may be called the vestige of an eye is perfectly consistent with its non-application; nay, it accords with an apparent unwillingness in nature to depart from prescribed rules. The total absence of an accustomed

organ occurs less frequently, than the inutility of an imperfect one; and hence the Spalus is not without the semblance of an eye.



THE SPALUS, OR BLIND RAT.

It is common to remark, that the loss of one faculty is, in some measure, counterbalanced by the perfection of another: or, in other words, that the total loss of one sense, necessarily calls the others actively into operation, and these become more perfect by exercise. We have also frequent occasion to observe that the Creator often varies the structure of a being in accordance with its circumstances and situation. We need not, therefore, be surprised to find that the Blind Spalus has the organ of hearing in a very perfect state. What is denied on the one hand, is abundantly bestowed on the other; and the creature is thereby enabled to preserve its existence. The external ear, indeed, has but a small outward expansion, but the auditory canal is very large; and, internally, the whole organ is greatly developed.

Modern Zoologists have piqued themselves in detecting an error in those of Greece; who, it has been asserted, described the Mole as blind. But Olivier proves that this wonderful people, whose mental faculties shot forth like a meteor through the surrounding density, and anticipated the progress of art and intellect, were not incautious in their conclusions. The Mole of these ancient naturalists was doubtless the animal now under consideration. It was indigenous to their country, or on other borders, whereas the one to which the name properly belongs, was a stranger to their shores.

The brethren live gregariously, underground; their habitations are not in general far below the surface, but in case of danger, they have a hiding-place of considerable depth for personal retreat and safety. They prefer cultivated grounds; and as they subsist principally, if not entirely, on roots, their visitations are often detrimental to the farmer. It is curious to observe their movements. They hurry on precipitately, turning or running sideways, or even backwards, with facility, and holding their heads erect to catch every flying sound. Thus, evidently relying on their most perfect faculty to forewarn them of approaching danger; for "dark, dark, dark, amid the blaze of day," they have no other means of detecting its approach.

The RAT-MOLE is common to the Cape; his smaller brother, assigned to the same locality, burrows to such an extent, as to render it dangerous to ride through the commonwealth.

"In every part of the sand-flats," says Mr. Burchell, "I observed innumerable mole-hills, and my foot

very often sunk into their burrows. For this reason, it is very unpleasant, if not hazardous, for persons to travel on horseback in such places, as they are liable to be thrown down by unexpectedly sinking into the earth. The animal which constructs them is a giant kind of Rat-Mole, nearly as large as a Rabbit, with a soft, downy, ash-coloured fur, having, in appearance, neither eyes, ears, nor tail. He is peculiar to the Cape, and is called the Sand-Martin."

Constructed principally for a subterraneous mode of life, with little other food than the grass which surrounds his habitation,—intrenched against most of his enemies by the nature of that dwelling, and passing half the year in a lethargic state,—the Alpine MARMOT (*Arctomys marmotta*) has little occasion for the sagacity of the Rat or Beaver, the Squirrel's agility, or, in fact, for any peculiar quality in order to ensure his safety. We find, accordingly, that he moves but slowly, that he raises himself with some degree of effort, and that, although a climber in his natural state, he mounts the clefts of his native rocks by the assistance of his back and feet.

His burrows are generally in the elevated parts of southern European mountains, above the limits of the forest, and in the region of perpetual snow. Gesner tells us, that "the construction of these burrows, and the gathering of soft herbage, with which to construct their beds, employs the whole community. Some cut down the finest and most nutritious, others collect it. Marmots dwell harmoniously together, and work in common round their habitations, where they pass the greatest portion of their time, and whither they retire in

showery seasons, for they never venture out, unless the weather is remarkably fine, and even then to no great distance. It also appears that the last who enters goes in backwards, with a bundle of hay in his mouth, which he contrives to leave at the entrance, and effectually to close it up. As the burrows are deep, and several reside together, some time must necessarily elapse before the cold can reach them, and hence it is conjectured that they consume some portion of their herbage. We are even told by M. Altmann, in his *Treatise on the Animals of Switzerland*, that the hunters allow the Marmot to remain unmolested for three weeks or a month, that they never attempt to dislodge them in soft weather, or during the prevalence of a warm wind; for should these wary creatures hear the sound of their coming, they arouse themselves, and dig still deeper; but by opening their retreats during the hard frost, they carry away the unconscious inhabitants without the slightest trouble.

Even during the Summer months they are rarely found at any great distance from their burrows, and a very remarkable instinct is observed among them on occasion of quitting home. One of the family is then stationed on the nearest elevated spot, and within sight of those who are seeking food. If an enemy, or any new object, be observed by the sentinel on guard, he utters a shrill cry, when, in a moment, the whole company hasten to their retreat, or if too far from the entrance, they seek instantly a hiding-place in the nearest cleft, or opening among the rocks.

Their Polish brethren very nearly resemble them

in their general habits, though rather larger, and of a different colour. It is curious to observe with what precision their boundaries are marked out. They extend in parallel latitudes, not exceeding fifty degrees, even to Kamschatka.

THE SQUIRREL, (*Sciurus vulgaris*.)

THE COMMON SQUIRREL is handsome, sprightly, vigilant, and industrious; with lively eyes, a fine countenance, nervous body, and nimble limbs. The beauty of his figure is heightened by a tail resembling a plume of feathers, which he raises higher than his head, and under which he shelters himself from the sun and wind. Partaking less of the nature of quadrupeds than animals in general, he sits, if at ease, almost erect; but when listening, he straightens himself, and lowers his tail to an horizontal position, in order to support his body and prepare for sudden action, like the Gerboa and Kangaroo. When favourably situated, his activity is incredible, and his sudden turns are too quick for the sight to follow. One might almost fancy him to be a bird, from his extraordinary lightness; and, like the feathered tribes, he dwells on the highest trees, and traverses the forest, by leaping from one bough to another. He likewise erects his little citadel on the top of some high tree; and while he supports his family with grain and seeds, he sips the dew from the spreading leaves, and descends not to the earth unless the forest is agitated by a storm. He is scarcely ever found in the open fields or on the plains; he rarely approaches the habitations of man, and seldom remains among the brush-wood. When

under the necessity of crossing a lake or river, he employs the bark of a tree for a ship, and uses his tail to catch the wind. Some writers have asserted that, in Lapland, whole parties are often seen thus voyaging across the lake, each mounted on his piece of bark, with his tail unfurled to promote the progress of his vessel. Ever alert and active, this little quadruped does not sleep, like the Dormouse during Winter, nor does he give himself much repose at night; but if the woodman sounds his axe near the tree where his citadel is placed, or any intruder prowls around, he leaves his nest, and flies to another, or shelters himself, with a beating heart, beneath some friendly bough. During Summer, he industriously occupies himself in anticipating the privations of Winter, by what would be termed among ourselves, a prudent laying by of the superfluities of Summer. For this purpose, he selects some hollow in the earth, or in an aged tree, where he stows his nuts and corn. When cold weather sets in, or the rough wind shakes the Autumn fruits to the ground, he repairs to his little hoard. Nay, he has been observed to know the situation of these little magazines, even after the snow has reduced almost everything to one common level. He may then be seen scratching off the snowy surface with his little hairy feet, and working his way in a direct line towards the object of his search.

“It is a curious circumstance,” said a writer of the present day, whose observations on nature are equally just and elegant, “that most of those oaks, which are called spontaneous, are planted by the Squirrel. This animal has performed the most important services to

the English navy. Walking one day in the woods belonging to the Duke of Beaufort, near Frog House, in the county of Monmouth, the attention of the narrator was drawn by a Squirrel, which sat very composedly upon the ground. He stopped to observe his motions. In a few moments the Squirrel darted like lightning to the top of a tree, beneath which he had been sitting. In an instant he was down with an acorn in his mouth, and began to burrow in the earth with his paws. After digging a small hole, he stooped down and deposited the acorn; then covering it, he darted up the tree again. In a moment he was down with another, which he buried in the same manner. This he continued to do as long as the narrator thought proper to watch him. The industry of this animal is directed to the purpose of securing him against want in Winter; and, as it is probable that his memory may occasionally fail with regard to the individual spots where he deposits every acorn, the industrious little fellow, no doubt, loses a few every year. These few spring up, and are destined to supply the place of the parent tree. Thus is Britain indebted, in some measure, to the industry and bad memory of a Squirrel, for the wooden walls to which she is indebted, under Heaven, for her prosperity and defence*!"

Actions like these are so nearly allied not only to memory, but association, that it seems difficult to distinguish the difference between them, as unconscious impulses, or reasonable acts. And yet, as the proneness to accumulation is invariably discovered

* *Harmonies and Sublimities of Nature.*

in the Squirrel tribe, we are rather inclined to refer it to the former than the latter cause, more especially, as it is equally evinced in the tame Squirrel, which after being captured in the nest, and removed from the influence of example or instruction, is equally impelled by his instinct, though no longer necessary. Offer him plain food, and he will thankfully receive it; give him another more agreeable to his appetite, he neither carelessly drops, nor throws away that which he is already possessed of, but endeavours to conceal the one before he receives the other.

When disturbed, or hunted in a tree, he never fails to keep as much as possible on the opposite side of every branch that he may fly to, in order to obtain the shelter of the branches between himself and his pursuer. Hence it is extremely difficult to reach the wary fugitive with any kind of missile.

Those who are much abroad in the fine nights of Summer, may hear the shrill voices of these little foresters on the topmost boughs. Then is their season for sport and play; they also gather provisions, and delight themselves in the abundance that is spread abroad. Like others of their relatives, they cast their hair towards the end of Winter, and re-appear in Summer, clothed with new and richer fur. Their affection for, and care of their young, is remarkable; and the male partakes with his mate in providing for them. This trait of character, though common to various animals, and generally attributable to no higher source than that of instinct, naturally excites a favourable opinion of creatures whose actions partake of what, among our-

selves, is referable to moral character and right feeling.

The common Squirrel is very generally diffused, but should rather be considered as a native of the northern than the temperate regions of the globe; for so numerous are the species in Siberia, that immense numbers of their skins are annually exported from that country.

Nature is so rich, and so lavish of her powers,—so infinite in means, and we are so much accustomed to see the several species vary from the influence of surrounding circumstances, that it may well appear surprising to find so few of this interesting family in our portion of the globe; in countries, especially, which seem peculiarly favourable to their nature and development; while in America, under parallel degrees of latitude, the woods are thickly inhabited with these active little foresters.

Moreover, when we perceive, or fancy we perceive, any break in the general harmony of things, it generally happens that our assumption arises from imperfect observation. It is consequently safer to suspect it to be only an apparent anomaly, than to attempt the solving of it by hypothesis, however ingenious or probable. Thus reasoning, and observing, too, some striking differences between the species, M. Cuvier considers the Alpine Squirrel, which he names the Squirrel of the Pyrenees, and which equally abounds on the Alps, as a distinct species from the joyous, light-hearted squirrel of our woods and valleys. In speaking of the Alpine, the Baron has confined himself to its localities and haunts; nor have the editors of his splendid work

been more diffuse. Neither have we anything further to record respecting the various species that are diffused throughout both hemispheres, and in every zone. They all are gay, vivacious creatures, which delight in running through the deep pine-forests or groves of their respective habitats, living on high trees, and often suspending their pensile cradles on the topmost boughs.

THE PORCUPINE, (*Hystrix cristata*.)

A NEW description of animals now come under our notice; and the Porcupine, as well as the Hedge-



THE PORCUPINE.

Hog, of which we have spoken elsewhere, walk forth, cased in spines, differently modified, indeed,

but apparently answering no other purpose than as weapons, and these bestowed on animals not otherwise endowed with courage and ferocity to use them, or particularly obnoxious to war's alarms, or acting any important character on the theatre of the world.

The natural history of this extraordinary tribe had long been a desideratum, till M. F. Cuvier was enabled to adduce many interesting facts, and to correct several errors with which simplicity and credulity had invested them. Some related that, naturally malignant and revengeful, they shot forth their arrows like bitter words, and moved about the fair creation bristling with spines, and ever vigilant to do ill. Others described them as bold and predatory creatures; others as selfish and suspicious. But such is not the case. They are equally timid, gentle, and confiding.

Only one species, the COMMON PORCUPINE, belongs to the European Continent.

Concerning the European variety, it may briefly be recorded, that he is found principally in the Neapolitan states, and throughout the southern parts of the Roman; that he avoids populous places, and burrows in dry and stony banks, open to the south, where he lives in silence and obscurity. Timid to a proverb, each animal remains quietly at home during the day, and ventures out only in the night. It is highly amusing to watch his movements; and if it be allowable thus to apply the beautiful apostrophe of the poet, we might conjecture that the calm evening hour was equally dear to this contemplative little quadruped.

I love thee, twilight! while thy shadows roll,
The calm of stillness steals across my soul,
Sublimely tender, solemnly serene,
Dear is the hour, enchanting as the scene.

When the evening draws in, he approaches cautiously the principal entrance to his retreat; peeps forth, as if to ascertain that all is safe; and when the loneliness and silence of the scene re-assures his confidence, he proceeds to gather his hermit fare of fruits and roots. Mindful of the Winter's cold, he hibernates in his retreat, but his lethargy is neither deep nor long; the first fine day, he rouses up, and when night draws on is again abroad in search of food.

Thus peacefully and quietly does the Porcupine pass his allotted period of existence, which extends to fifteen or twenty years. Nor is it the least extraordinary fact in his domestic history, that, though so well prepared for defence, he is yet remarkably gentle. Other genera of this order, the Hare and the Rabbit, for instance, may doubtless be considered as possessing means to elude the rapacity of almost every animal of prey, in the timidity of their disposition, conjoined with a certain degree of celerity. Without these, they would be nearly, if not quite defenceless; but the case is not so with the Porcupine. The ordinary powers of inferior animals are generally insufficient to avail them against the bristling armour of this species. Nay, more, the subtle creature can roll into a ball, and thus protected, present a rampart that few dare venture to assail. All but man decline the unequal

combat. He alone hunts him for his flesh, or rather seeks him in his retreat.

But though the Porcupine is unable to dart forth his quills, he is not passive when attacked. If closely pressed, he throws himself sideways on his opponent with the utmost impetuosity, and always on the side where the spines are longest and most powerful. He is ever anxious to protect his head, and yet no creature perhaps can bite harder; for even the largest carnivorous animals cannot inflict deeper or more dangerous wounds than the Porcupine. The thickest and hardest boards soon yield to him: he has even been known to separate an iron wire, and hence the necessity to line his cage with sheet iron. His natural disposition to a solitary life can only be partially overcome: he may in time habituate himself to the society of his keepers, but will never become either familiar or affectionate.

The common Porcupine is the largest of this order.

THE HARE, (*Lepus timidus*.)

HARES pass their days in solitude and silence; yet, though preferring to reside like anchorites, each in his own form or seat, at the distance of sixty or eighty paces from their kindred, they colonize in considerable numbers, and seldom remove far from the scenes of their early gambols. In districts appropriated to the chase, great numbers are sometimes killed in the course of a day's sport; and wherever one is met with, there the hunter is sure to find two or three others in the neighbourhood. He who walks abroad in the clear moonshine may see these harmless creatures playing

together, leaping and chasing one another. The smallest motion, or the noise of a fallen leaf, is sufficient to terrify, and make them fly in different directions. This, too, is their feeding time; they browse on the tender branches of young trees, and select the most juicy plants. During Winter, and when hard driven, they gnaw the bark indiscriminately from every kind of forest-tree, the lime and alder excepted.

The hare is neither deficient in instinct for his own preservation, nor in sagacity to escape his enemies. He forms a nest, selecting in the Winter a situation open to the south, during the Summer to the north, and for the purpose of concealment, often hides between two clods or hillocks, of the same brown colour as himself. "I have seen," says the natural historian, Fouilloax, "one of these sagacious creatures start on hearing the hunter's horn, from his own form, and hasten to a pool at the distance of a quarter of a league. The spot was well fitted for concealment; for towards the midst sprung a rank luxuriance of weeds and rushes; among these he lay down at rest, as if knowing that the dogs had lost his scent, and thus effectually escaped them." Nor is this an isolated instance. A Hare has been known, after running two hours before the hunters, to push a weaker neighbour from his seat and take possession; another has swam over two or three ponds, the narrowest of which was eighty paces broad; a third has fled into a sheep-fold, and laid down among the bleating occupants; one conceals himself in the earth, another runs along one side of a hedge, and down the other,

when there is nothing else between him and the dogs. Some, still more sagacious, will mount an old wall, and hide themselves in a hole covered with ivy; others will plunge into a torrent eighty paces broad, struggle against the contending waves, and leap from rock to rock.

Poor is the triumph o'er the timid Hare.

Yet this kind of hunting is often the amusement and sole occupation of the idle. These timid creatures admit of a near approach, if they are not advanced upon directly, but by a winding and seemingly inattentive motion. They are more afraid of dogs than men; and start rather at the chiding of the former, than from the shout or bugle of the hunter. When first pursued, they run with great celerity, but always in the direction that the wind blows, and then double or return upon their former steps. The females circle in their rapid flight, with injudicious fondness, near the place of starting. It seems that these poor creatures are strongly attached to their native haunts; for, if hunted in the vicinity, they never go to a great distance, but return as soon as possible; if even chased for two successive days, they go over on the second day the same doublings as they did on the one preceding. If a Hare runs straight forward, and to a great distance, he is a stranger, who has been driven from his native haunt.

In Summer, Hares frequent the fields; the vineyards, if such there be in the vicinity, during Autumn; the woods or coppices in Winter; and at all seasons they may be started and chased with hounds. They are also attacked by birds of prey;

a perpetual war is carried on against them by owls and buzzards, eagles, foxes, wolves, and men: so numerous are their enemies, that a casual observer might conclude, that they had little to enjoy in their brief period of existence.

We have already noticed the perfection of their organs,—that their eyes are presumed not to be perfect during daylight, and that their lateral direction prevents them from seeing directly forward: they rather rely on the sense of hearing, to warn them of approaching danger. Perfectly defenceless, and exposed to countless ills, they have no chance of safety but in the expedition of their flight; and unless forewarned by the acuteness of one or more of their senses, they would infallibly fall the victims of surprise. The Creator, while he permits them to become the prey of innumerable enemies, has provided them with one mode of self-protection, in an extraordinary degree of rapidity, which is rendered more efficacious by a quick susceptibility of danger. Judging of their feelings by our own, we should certainly be inclined to suppose that, if there were any disparity in the distribution of good and evil to the inferior orders of the creation, all, except sportsmen, must pity creatures which live continually under the excitement of acute fear.

But the Christian moralist cannot accede to this conclusion. He remembers that it is written in the only volume which does not admit of contradiction, that “The tender mercies of the Creator are over all his works;” consequently, that no one being is destitute of a certain portion of assigned happiness. He remembers, also, that ordinary conclu-

sions, drawn from analogy, are frequently erroneous, when any of the great objects of Providence are the subjects of contemplation: that the existence of innumerable creatures, whose speedy destruction would seem to be the ordinary consequence of their defenceless situations, and their vicinity to the most formidable species, evinces an extraordinary suspension of common consequences, and an especial interposition in their favour. Nor is it for us to determine that certain animals are wretched because obnoxious to certain ills. The Hare is said to live under the influence of acute fear; but can we ascertain that fear is to him what it is to us? It is true that he flies at the cry of men and dogs, and cruel is the sport which revels in his misery; but then the delights of the forest and the wild are his: bounding spirits and agile movements; the moonlight sport, the field, the vineyard, and the wood. Short and brief is the hunter's time; long his season of gladness and security.

And yet, though wild by nature, Hares are not so intractable as their habits may seem to indicate. They are gentle, and if taken young, may be easily domesticated. Buffon denies them this susceptibility. Cuvier too says, that the common Hare has never yet been domesticated; but the fact is otherwise: the amiable Cowper has celebrated the attachment of his three domestics. M. Desmarests also kept one for a considerable time about his house; with the wild habits of her kindred, she had also renounced their timidity. She was confiding and affectionate to all she knew; and if ever she betrayed the least susceptibility to fear, it was when

a stranger entered the house unexpectedly. During Winter she sat complacently before the fire, with two large Angora cats and a sporting dog, with whom she lived on the best possible terms. At table, her place was always beside her master, looking at him for food; and if disappointed in her expectations, she would drum with her fore-paws in rapid succession, on his hand or arm.

We may further notice, that one of these naturally timid creatures moved fearlessly about, upon a table, in the midst of the surrounding multitude, the tones of a hand-organ, and the noise of a public street. He was also taught to beat a tambourine; and as a further proof how completely his fears had ceased, he was accustomed to pull a trigger, and to discharge rather a large pistol. This was an event of every day's occurrence, and could not, therefore, be accidental. Few creatures are so stupid as not to learn by practice the consequences of an act; nor did the animal in question exhibit the least alarm, on making a report that would most probably have turned a Lion.

Soil and climate appear to exercise considerable influence on these as well as other quadrupeds. Mountain Hares differ in size and colour from their lowland neighbours: the former are browner, and have more white about the neck; the fur of the latter inclines to red. On high mountains, and in northern latitudes, they often become white when the Winter sets in, and resume their usual vestments on the return of Spring.

THE RABBIT, (*Lepus cuniculus*.)

THE COMMON RABBIT resembles her relative, the Hare, in form and structure, but its mode of life is different; both are equally timid, but one contents himself with a seat among the grass, whence he is ready to bound off, should the cry of dogs, or unwelcome footsteps excite his apprehension; the other, less swift of foot, digs for himself an asylum in the earth. Nor is it less remarkable, that the instincts of the animal vary in accordance with existing circumstances. Tame Rabbits never give themselves this trouble, for the same reason that some domestic birds dispense with building nests, because they are sheltered from the inconveniences to which their sisters of the forest are liable. Hence it happens, that when a warren is replenished with tame Rabbits, both they and their offspring remain, like Hares, upon the surface, and never begin to burrow till they have endured many hardships, and passed through some generations.

One of the most pleasing traits by which they are marked, is the extraordinary attachment of the female towards her young. When about to be occupied in maternal duties, she relinquishes all her wonted habits,—the wild companionship of her associates,—the delights of the forest and the wood. “A creature formed for liberty submits to confinement in the very season when everything invites her abroad; an animal delighting in motion,”—all whose feelings are so easy and so free,—hardly an hour at other times at rest, is for many hours, or for many days together, fixed in her dark, cold burrow, as closely

as if her limbs were tied down by pins and wires. For our part, we never witness this willing prisoner, thus occupied, without recognising an Invisible Hand, detaining her from her fields and groves, for a purpose the most important and beneficial. In order to render this burrow the more comfortable for her young, she makes a bed of the softest fur from her own warm garment, and never ventures out for the first two or three days, unless the pressing calls of hunger should draw her from her beloved charge; she then eats quickly, and returns as soon as possible. Thus secluded, she continues to cherish the young ones for more than six weeks during which the father never intrudes on her occupation. At length the happy era of their deliverance approaches; the cautious parent timidly leads them to the entrance of the dormitory, when they nibble groundsel and other tender herbs, and the father seems to acknowledge them as his own. He takes them between his paws and licks them; each in turn equally partakes of his care and attention.

We are assured, by persons of unquestionable veracity, that Rabbits live in a social state, take an interest in each other, and even evince something like respect for the rights of property. In their republic, like that of Lacedæmon, old age, parental affection, and hereditary rights, are respected: the same burrow is said to pass from father to son, and lineally from one generation to another; it is never abandoned by the same family without necessity, but is enlarged in proportion to its increase, by the addition of more galleries and apartments. This succession of patrimony, this right of property, has

been long observed; nor have modern investigations in Zoology disproved its existence.

The Rabbit came originally from Spain, but is now spread throughout all the temperate parts of Europe. Impatient of the cold, they have never penetrated as far north as Sweden, though occasionally retained there in a domestic state; even then, they require a considerable degree of artificial warmth, and perish if abandoned in the fields. They delight in sultry climates; and are most abundant in the southern parts of Asia and Africa, along the Persian Gulph, the Bay of Saldani, in Lybia, Senegal, and Guinea.

Nine individual species appertain to the genus *Lepus*. We have spoken of the Common Hare and Rabbit; it now remains to notice the VARIABLE HARE.

This animal (*Lepus variabilis*) inhabits the loftiest Alpine districts in the northern regions of the globe; it occurs on the mountains of Lapland, the craggy ridges of Nordland, along the steep hills, and beside the rock giants, which seem to scale the heavens, and where, as Linnæus beautifully observes, epochs of time, and years, and ages, seem carved out in a surprising series on the sea-shore, and in the banks above the shore. He is found also in Norway, Russia, Siberia, and on the Scottish Alps; he even extends to America, and is seen occasionally in Upper Canada. This animal affords another and interesting proof of the locality of certain tribes. He is confined exclusively to the most elevated situations, and never descends into the plains; he carefully avoids the neighbourhood of his relative, the Com-

mon Hare, and changes from gray to white when the cold weather sets in. The species migrate, occasionally, in order to obtain food; troops of five or six hundred have been seen to quit the frozen mountains of Siberia, and to descend into the plains, and woody districts, whence they again ascend in Spring to their native haunts.

THE PIKA, OR ALPINE HARE, (*Lagomys*]
Alpinus, Pen.)

GENERALLY inhabits the Altaic chain of mountains, a wild, precipitous and rugged land; it extends also to the Lake Baikal, and even to Kamtschatka. This tribe affects rough, woody districts, amid rocks and cataracts, where they either burrow among huge stones, or dwell in the natural fissures, alone, or in small companies. They are also found, occasionally, in the hollow trunks of such aged trees as have been thrown down by the violent storms that sweep over these high regions. When the weather is bright and clear, they issue from their fastnesses in the evening and at night, but when it is dark and hazy, they may be seen running about among the rocks, frequently uttering a sort of whistle or chirping sound. In their manners and mode of life, they closely resemble some of the Marmots and Hamsters. The instinct of amassing provisions is very remarkable in this species, and equally so is their method of procuring them. About the month of August they collect large quantities of grass, which they spread to dry, and, in effect, convert into hay. Their next care is to form stacks of about seven feet in height: this they do in the manner of our

haymakers, and place them at a convenient distance from their subterraneous abodes. They then excavate a road, that answers the purpose of a covered way, leading from their burrows, and opening beneath the hay-stacks, to which they resort when the snow of a Siberian Winter buries everything beneath one dazzling surface. These little ricks, reared by their industrious labours, are often of great service to the adventurous Sable-hunters, whose horses would perish were it not for the supplies which they thus most seasonably afford.

Actions like these, which do in fact anticipate remote, but certain evils, and wear the semblance of proceeding from reason and deduction, equally astonish and surprise us; while the mental faculties of these creatures are evidently so limited on all other subjects, as to render it probable that such faculties differ from our own, not only in degree, but in kind. It is not merely the prescience of the remote evil of starvation, or even the direct means of providing against it, by amassing a store of provisions; but it is something equivalent to the knowledge that such provision requires preparation; it is their adopting the best and only means of preparing it, that excites our observation or surprise. Little as we know of the mode by which this instinct is excited, it is obviously the especial provision of Providence in favour of his creatures. Continually invited to enlarge on this interesting subject, it is still impossible to do so with the hope of explaining what has hitherto been inexplicable. Another opportunity may, however, lead to further observations on the phenomena of the instinctive

and mental faculties of animals; at present we shall acknowledge the hand of God, as displayed by the unconscious Hare, for its preservation; and then pass on*.

Although well known by the Siberian hunters, this species had almost escaped the notice of travellers, till the indefatigable Pallas first gave us the account of its history and construction.

In order to ascertain the particular plants which the Alpine Hares selected, and dried for their Winter store, he carefully examined one of their stacks. This appeared to be culled very carefully, to be cut just at the proper period of ripeness, and dried so slowly as to form both a green and succulent fodder; neither thorns, nor hard or ligneous stems, and even very few flowers, were to be found among it; but, here and there, some acrid or bitterish herbs, as if to give a relish to the rest. Small parcels of large leaves seemed to be carefully separated, though evidently designed for general use.

We have already stated, that the half-civilized Sable-hunters, instead of imitating the provident labours of this creature, appropriate the fruit of their industry, and leave the poor animal to starvation and death. It seems as if the life of this interesting and laborious species was one of continual danger. "Suffering," says a natural historian, "is the badge of the tribe: they are exposed to the privations consequent on high latitudes and long frosts. They have also many enemies to dread: if their stores escape the rapacity of man, they are themselves exposed to the attacks of their carnivorous compatriots,

* See *Animal Kingdom*, vol. iii. p. 224.

particularly of the Weasel tribe: their labour, talents, and industry, are frequently the sources of evil and persecution; they are robbed, abused, and considered happy, if allowed only to escape with life." But we are inclined to take a very different view of the situation of the Alpine Hare. They are free rangers, and many of their dwellings are stationed where man, with all his boasted intrepidity, cannot, and dares not approach. During Winter, their burrows are too deep to admit of spoliation, and how know we that those burrows do not contain some secret magazine of herbs, though the larger hay-stacks be despoiled by the Sable-hunter, or else that the animal lethargizes when deprived of food? During Summer they sport at will, amid the wildest solitudes of untamed nature, buoyant and joyous, unused to care, and bounding over the dewy herbage, from the sight and sound of war. It is true that they have many enemies, and such is the lot of all: but against those enemies, that Being who called them into life has provided them with means of protection or escape. We know that He hates nothing which He has created, and it is surely wrong to conclude that an animal is necessarily miserable because we cannot understand its secret sources of enjoyment, or because we, if assigned to the same allotment, should consequently be unhappy.

Of the OGOTONE, or GRAY ALPINE HARE, so called by the Mogul Tartars, we read that he is common to their deserts; and that beyond Lake Baikal, these animals select a sandy soil for the facility of digging deep, and there construct their simple dwellings with one, or two entrances, the

interior being well provided with a thick, soft bed of leaves; that they love to wander about at night, and to seek, principally in the defiles of the mountains, and along the banks of rivers, tender bark and young green shoots; grazing in the Spring upon the scanty herbage that starts out of the sand, and transporting so large a quantity to their retreats, that the galleries are often nearly filled, and the burrows almost closed up. This movement the inhabitants consider as the sign of an approaching storm.

The same plants compose the Winter-reserve of these industrious animals, but then they are never laid up within their burrows, for want, apparently, of space. Numerous small heaps are seen to rise around their dwellings, one foot in height, and nearly hemispherical; during the fine days of September, when the snows begin to melt, and the dark fir-bough breaks into a deeper verdure, these little heaps of forage are no longer visible; nothing but the dispersed refuse remains.

We learn further, that, remarkably quick of hearing, they are at the same time so extremely timid as not easily to be tamed, that their cry is a sort of a hiss, and that being still less in dimensions and in power than their relatives the Alpine Hares, they are even more exposed to a host of enemies. Birds of rapine seize them by day, martens and polecats harass them by night. Hence the necessity for a subterraneous retreat, and the instinct which inclines them to perambulate among heaps of stones, and in rocky places. Thus secured, they seem to pass their days pleasantly and tranquilly: if fierce birds attack

them, they retreat to their subterraneous dwellings: if the polecat or marten endeavour to circumvent them, they have only to retire to the same fastnesses, and few even of that predatory race will venture, unless impelled by hunger, into the mazy labyrinth of their peopled burrows.

The CALLING HARE, (*Lepus pusillus*.) Professor Pallas, the great explorer of the Arctic regions, tells us, that this animal inhabits the southern parts of Russia, about the ridges of the hills that spread southward from the Uralian chain around the Irtysh, and the western portion of the Altaic. Being of wild and lonely habits, these creatures are rarely to be seen, even in their most favourite resorts; their solitary dwellings are hollowed out in some dry declivity, covered with underwood,

Which oft the sun at evening tide
Tints with his golden finger.

These burrows descend obliquely; the entrances seldom exceed more than two inches in diameter; consequently the little anchorites would rarely be discovered, if they had the prudence to remain silent. But their quail-like voices heard in the stillness of the morning, and again at twilight, too often reveal the secret of their solitary dwellings. He who traverses the wild regions where their lot is cast, may hear their lengthened and reiterated cries breaking on the silence of these Alpine districts, and on hearing them, it will be well for him to hasten, with all diligence, towards the nearest shelter, as they indicate approaching storms. Obnoxious to innumerable enemies, these animals

generally remain earthed through the day; but no sooner is the sea-fowl seen retiring to her nest, than small foraging parties sally forth in quest of juicy herbage, and to enjoy, without restraint, their sport and play in the still moonlight. Thus they continue till the early clarion of some wakeful bird, or the first ruddy streak of morning over the eastern hills, cautions them to retire. In a moment they are gone,—

. Like that pygmean race
Beyond the Indian mount, or fairy elves,
Whose midnight revels by a forest side,
Or fountain, some belated peasant sees,
Or dreams he sees, while over-head the moon
Wheels her pale course. MILTON.

When the snow descends in whirlwinds, the Calling Pikas are more than usually industrious. Small parties may then be seen occupied in forming avenues through the grass, over which the frozen snow forms a light and transparent covering. These avenues enable them more readily to procure their food, which consists of grain, small branches, leaves, and tender bark.

Though generally leading a solitary life, no animals are more gentle, or more ready to associate with man. Pallas relates that they soon accustom themselves to their new state of being, without apparently a wish to re-assume their former habits.

The diminutive size of these confiding little mountaineers might lead to the conclusion that it would be impossible for them to sustain such an intensity of cold as they are obnoxious to in high latitudes and elevated situations. But let us not

doubt for a moment the parental care of Him who has called them into being.

THE GUINEA-PIG, (*Cobaya apercua*.)

GENTLE in disposition, docile, through weakness, almost insensible to everything, the GUINEA-PIG has the appearance of an automaton. These are the traits, says M. Cuvier, with which Buffon terminates his article on this animal, and which characterize it with the utmost propriety. Every creature receiving from nature the instinct of self-preservation, is also endowed, to a certain extent, with the means of obeying it. All endeavour in the first instance to avoid their enemies, but if escape be ineffectual they have recourse to some one or more of their organs as weapons of self-defence. The monkey endeavours to wound with his nails and teeth; the dog limits his exertions to biting; the cat tears with her talons; ruminating animals use their horns; the horse kicks; the generality of the Rodentia employ their formidable incisive teeth, and sometimes their bent nails. The Guinea-Pig alone cries out, and endeavours to fly. Whether the Creator has so constructed this animal, or whether domestication has rooted out its natural instinct, we have no means of knowing. Certain it is, that the poor, feeble creature appears to have no idea of opposition, or how to escape from harm; long incisive teeth, which are equally capable of being brought into action, and of inflicting severe wounds, are unemployed, as are his nails, in all purposes of warfare and self-defence. When seized he utters a sharp cry, and makes some effort to escape from the

hand that holds him, then quietly submits to his fate, and seems to relinquish the hope of liberty in despair. We shall not probably find a second example of this extreme inoffensiveness in the whole class of Mammalia. Similar instances in either of the lower orders are but rare.

Yet the Guinea-Pig passes as safely through life as his more blustering relatives. He is perfectly innoxious, and quietly enjoys his portion of allotted good. If his qualities do not ensure respect, or inspire terror, he is in hostility with no one, and hence he is allowed to proceed without reprehension. Far happier in his lot, less obnoxious to fear and danger, than if he was ever alert and active to promote strife. Besides, as a countervailing quality, lest the extreme gentleness of the race should lead to their extinction in seasons of scarcity, they are extremely numerous. Such is generally the case with all the weaker animals; if their lives are often shortened, their numbers proportionably increase, and the feeblest of the Creator's works are thus preserved from those casualties which might otherwise, in some degree, counteract the design that called them into existence.

These unoffending creatures, now generally domesticated throughout Europe, because their odour is thought to drive away Rats, are supposed to have originally proceeded from an American vessel; but as this is merely conjecture, and the species are widely diffused throughout Europe, we have classed them among the animals of the ancient continent.

The Cape, the Syrian, and Hudson's Bay Hyraxes delight in the wild magnificence of Alpine districts.

The first resides in hollow rocks, and leaps with remarkable agility, feeding on vegetables and uttering a piercing cry. Any notice of the Hyrax of Hudson's Bay does not belong to this portion of our subject. As regards the Syrian some interesting memoranda have reached us. This curious creature is found in Ethiopia, and many parts of Abyssinia, in deep caverns, or beneath great stones. He does not burrow or make holes like the Rat or Rabbit, nature having interdicted this practice by furnishing him with feet, the toes of which are by no means adapted to the miner's toil. Hence, instead of burrowing in the earth, he seems to delight in airy places, in caverns, or in the clefts of hollow echoing rocks, where huge projecting stones afford a secure retreat, and preclude the fear of being removed by the strength or subtilty of man. In these interesting districts, where the traveller is mournfully reminded of ancient grandeur, it is said to be cheering to see the crowds of these creatures that assemble on the stones which lie scattered around the entrance of their caverns, to bask in the warm sun, or to enjoy the freshness of a Summer's evening. In the regions they inhabit, there is much to inspire the traveller with apprehension, and it seems as if they partook of that feeling. They are never seen to stand upright, but steal along as if in fear, advancing a few steps, and then pausing.

Before dismissing the order *Rodentia*, it may be interesting, briefly to remark the admirable instinct which inclines them to seek out, or to erect such habitations as will serve to screen them from the weather, or as nests and cradles for the safeguards

of their offspring. These, however dissimilar in shape or station, are admirably adapted to the purpose for which they are designed, and so far from any inconvenience or danger accruing to the young, however comfortless they may appear to us, they are more secure than if differently lodged. If, for instance, some of the animal creation are nature's citizens, houseless, and exposing their defenceless offspring without a shelter, to the winds of heaven, it is obvious that they do not require a more secure abode; they, the parents, are either fostered by the care of man, or strong, to labour and ward off the aggressions of their enemies. If others, on the contrary, deposit their young, in holes or caverns of the earth, excavate a subterraneous dwelling, or throw up strong walls, wherein to shelter and protect them, it is because such a security is needful: either the hunter is their foe, or the more formidable species of animals pursue them as their prey.

Admirable, indeed, is their sagacity in the selection of fit dwelling-places; and no less so is the fabric of them; for with what inimitable art do these poor, untaught architects lay together their rude materials of sticks and straws, moss, or withered leaves; how carefully do they close up the entrances, when about to hybernate; or leave their young for a short time! And further yet, with what care and skill do many line the interior of their dwellings, plaster the outside, or else suspend them in such of nature's citadels as serve for bulwarks to protect them from the operations of their foes.

Where shall we find a more ingenious artificer than the common field-mouse? She, faithful to her

maternal duties, makes a most ingenious nest for the reception of her young. We have often seen specimens in our fields, and one was brought us curiously constructed in a thistle. It was artificially platted, and composed of blades of wheat, perfectly round, and about the size of a cricket-ball, with the aperture so ingeniously closed that it could not be discovered. It was, besides, so compact, and well-fitted, that it might be rolled on the green without being discomposed, though it contained eight little blind mice. As this nest was perfectly full, how could the dam administer to each? Perhaps she opened different places for that purpose, and then adjusted them when the business was over; but she could not herself be contained in the ball with her young; they also daily increase in size, and how then is the cradle to be enlarged? This question we had no opportunity of solving, for unfortunately the beautiful thistle had fallen before the mower's hands.

Time would rather fail us, than the want of matter, were we to speak of all that we have witnessed or heard, of dwellings, constructed by no human hand, which stand like way-marks in the deserts, or up the rugged flanks of mountains, whose bold foreheads are shrouded by masses of snow, which the tempests have accumulated.

We shall, therefore, briefly notice that the social habitation of the Alpine Marmots is situated in the regions of frost and snow; that when they are about to become dormant, their dwelling is constructed with no ordinary skill. It is broader than long, containing several inhabitants, and yet admitting a

free circulation of air. It is not merely a hole dug out, a straight or winding tube, like that of many untutored architects, but a species of gallery resembling the letter V; each branch of which has an inclining aperture, the one serving as a general receptacle, the other as a passage. At the further end, a sleeping apartment is well lined with moss or hay, which the community carefully collect during the Summer season.

The ROCK-RAT also chooses for his resting-place the fissures of echoing rocks beyond Lake Baikal, and the Mongolian desert, such as are rent asunder by hard frosts, or the insidious operation of parasitic plants. From these he flings out those portions of vegetable mould that might incommode his progress,—then burrows deeper, and forms a large oblique passage; and then again, another gallery pointing downwards, winding among the rocks, and terminated by a small apartment, where he prepares his nest of tender leaves and herbs.

Stranger still, the ECONOMIC-MOUSE constructs a dwelling similar to that of the Icelanders: a long inclining gallery, terminated by a large and deep hole, intended to drain off the water, which a land-flood frequently occasions, and serving also as a place for offal; that two diagonal roads further branch off from about the middle of either entrance, leading to a sleeping apartment and magazine, which the inmates keep dry and clean.

We might here, too, instance, as illustrative of the same extraordinary instinct, the habitation of the COMMON GERBOA. We might lead our readers to examine the apartments of the Lemming tribe; but

the examples we have adduced will suffice to show how unerringly fitted to the end are these instinctive operations, whether to promote individual comfort and security, or further to display the power and omnipresence of Him who called them into being. These are way-marks of no ordinary character; they rise in deserts rarely trodden by the foot of man, or amid the terrible accompaniments of Icelandic scenery, immense Alpine barriers, sounds loud and dread, and columns of smoke issuing from numerous rents and chasms in the lavà. The mind, lost and bewildered amid the grandeur of the one, dwells with a feeling of confiding tenderness on the other. In the one, we recognise the footsteps of that Being, "who touches the mountains, and they smoke," by the other we are powerfully reminded, that "His tender mercies are over all his works," that amid his most tremendous operations, "He careth for all that He has made."

THE ARMADILLO.

WE have spoken elsewhere of the extraordinary construction of the Armadillos: their localities, and general habits appertain to the animals of America. But the ANT-EATER of the Cape belongs to this division of our subject, though concerning him we have little to narrate, except that he remains concealed through the day, and never ventures out, except at night, when he goes to pasture on the ant-hills that abound in his vicinity. He commences his attack, by opening a breach on one side; and while the little community, terrified at the noise, and downfall of their intrenchments, are seen run-

ning about in great confusion, he destroys a large proportion of them by means of his long slender tongue. Without tusks, or any efficient teeth, he depends for safety on concealment; not in hollow rocks, or among huge masses of stones, but in the soft sand, which he excavates with such accuracy, and to so great a depth, that it is scarcely possible to remove him from his burrow.

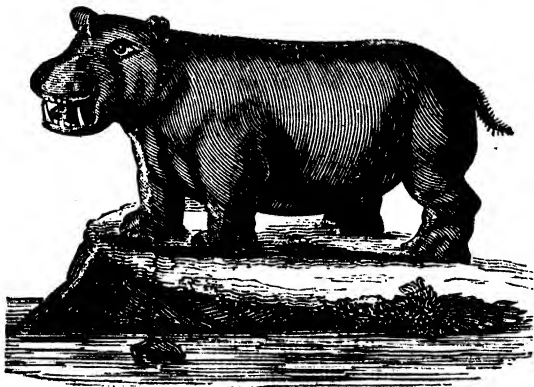
The genus MANIS, or Pangolin, approximates to the Ant-eater, but the internal character of the two is widely different. Cased in armour, the Pangolins have nothing to fear from the most ferocious of the mammiferous tribes; it is even said, that the fierce Tiger and largest cats can do them no harm, that all their attempts to crush them with their teeth and talons are equally unavailing; different species of this extraordinary family, inhabit various portions of the globe, but respecting them, no biographical memoranda of any interest have reached us.

THE HIPPOPOTAMUS, (*Hippopotamus amphibius*.)

THE HIPPOPOTAMUS, of the order Pachydermata, is a huge unwieldy creature. He principally inhabits the muddy banks of rivers, which he quits only in the night to seek for pasture. The slightest noise, or indication of danger, causes him to dive into the water, and from time to time, his nostrils may be seen emerging from the surface.

The aspect of this creature is terrific, the opening of his mouth measures upwards of two feet, and the largest tooth more than a foot. Armed with such weapons, the stoutest heart might quail before him; but his disposition is naturally mild, and as a coun-

terpoise to his prodigious strength, he moves slowly, and raises himself with difficulty. When pursued, or intimidated, he endeavours to escape; if wounded, he turns on the assailants, and has been known to attack a boat filled with armed men, to seize the keel with his terrific teeth, and, after breaking a large hole and letting in the water, to dart away, shaking his great ears, as if in derision. "I have seen him," said a quaint old writer, "in the wash of the shore, when the sea has tossed a Dutchman's boat, with fourteen hundred hogshheads of water in her, upon the said beast, and left it dry upon his back, and another sea came, and fetched the boat off, and the beast was not hurt, as far as I could perceive.



THE HIPPOPOTAMUS.

The natives call this creature Kittimpungo. He is, they say, a kind of supernatural being; nothing will kill him: but, should they do to him as the

white men, he would soon destroy their canoes and fishing-nets. Their custom is when he comes near, to throw him a fish, as a peace-offering; and then he passeth by, and will not meddle with their craft. He doth most mischief when walking in the fields, but when afloat hath only power to bite. As our boat once lay near the shore, I saw him go under her, lift her with his back out of the water, and overset her, with six men a-board; but, as it happened, did them no harm. Whilst we lay in the road, we saw three of these great creatures, which did trouble the bay very much every fall and change, and two or three days after. The natives say that their noise resembles the bellowing of a bull."

We speak of the colossal strength of this formidable animal, but what is it when compared with the relative powers of some of the insect tribes! Well may we adore the beneficence of the Creator, in not having endowed the larger animals with muscular force proportionable to that of the inferior orders. A cock-chafer is six times stronger, according to his size, than the most powerful horse; and if the Elephant, as Linnæus well observes, was strong in proportion to the stag-beetle, he could uproot the firmest oaks, and level mountains. Were the Lion and the Tiger as strong and swift for their magnitude as the cicindela and the carabus, no precaution could elude their vigilance, no human strength withstand their prowess. Could the viper and the rattle-snake move with a rapidity and force equivalent to that of the iulus and scolopendra, who could avoid their venomous bite? But the Creator has

wonderfully manifested his Almighty power in these little creatures, in showing what He could have done, had He so willed; and his goodness in not creating the higher animals with power and velocity on the same scale as that of insects.

Individuals are also often seen in Dondola; though herbivorous, and living on the roots and bark of water-trees and plants, they are still dreadful scourges to the inhabitants. They often descend the Nile as far as Sukkot; and, in 1812, a considerable number passed the Buhr-ed-Hadjar, and made their appearance at Nady-IIafna, to the great alarm of the natives, who had never heard of a similar visitation. One of these was killed by an Arab; the peasants ate the flesh, and sold the teeth and skin to a merchant of Sivutt. Another continued his course northward, and was observed beyond the cataract of Assouan, at Deraco.

This fearful creature is rarely met with at Shendy, though he occasionally appears there. M. Burckhardt notices having seen one in the river near Boegdha, which made great ravages in the fields, by the treading of his enormous feet, as well as by the quantity of food he consumed. The natives had no means of destroying him; his visitations were new to them, and their slender weapons could not penetrate his tough hide. But experience would soon have taught them how to circumvent the fierce intruder. At Senaar, where these terrific creatures are very numerous, they are caught in pitfalls, covered with reeds, into which they fall during their nightly excursions.

The size and almost shapeless mass of a small

Hippopotamus, when lying on the ground, appears enormous. The colour is generally uniform, and may be correctly imitated, by a slight tinge of Indian ink.

It would be highly interesting to become better acquainted with the biography of this mammiferous tenant of the African rivers. His habits and location must bring him into contact with the Crocodile and his relatives, on whose natural domicile he seems continually to intrude. Were he not superior in strength to these formidable and ferocious reptiles, he would soon be driven from his watery retreat; but we hear of no struggles between them; their relative capabilities seem known instinctively to each other; and while the strongest shows no inclination to attack, the weakest is afraid to commence hostilities. It may, indeed, be remarked, that whatever superiority of intellectual power is to be found relatively, among the lower orders of creation, such superiority is not in any instance sufficient to get the better of physical force; while in man, whose bodily powers, however modified and adapted to his station, are comparatively weak, intellect bids defiance to brute force, and surmounts all opposition.

However related to the carnivorous swine, the animal of which we treat appears to live solely on the vegetable kingdom. It might be suspected that this formidable creature, from his watery dwelling, partially lived on fish, but this is not the fact; and if he be driven to the river in search of food, it appears to be only for such vegetables as affect moist situations. In common with the Rhinoceros,

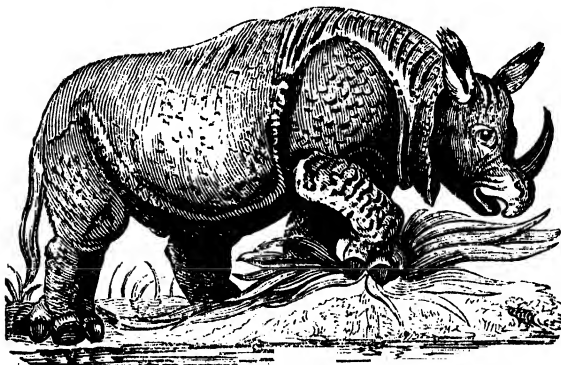
his supposed relative, the swine, and even the lordly Elephant, he is fond of wallowing in the mud. He does this by an instinctive impulse, and it affords relief against parasitical insects, and the humming population of warm humid districts.

THE RHINOCEROS, (*Rhinoceros Indicus.*) ;

A FIRST view of the Rhinoceros suggests the idea of an enormous hog, to which he bears some resemblance in the shape of his skull, the smallness of his eyes, and the singular construction of his ears; but in his general contour, and clumsy legs and feet, he rather assimilates with the Hippopotamus or Elephant.

Next in size to the last-mentioned animal, he widely differs from him in natural powers and intelligence; for the Creator has assigned to this unwieldy creature nothing that elevates him above the ordinary rank of quadrupeds. His skin is apparently deprived of all sensibility, neither has he a proboscis, serving instead of hands; he has only a moveable lip, with a strong horn attached to it, and to this, his means of address and dexterity are limited. Yet, superior in brute force to most of his companions, he retains a certain elevation from the strength and magnitude of the offensive weapon with which he is endowed. This weapon is peculiar to himself, and is more advantageously situated than the horns of ruminating animals, for these solely defend the superior portions of the head and neck. But the horn of this fierce creature preserves from injury the muzzle, mouth, and face; and hence the Tiger, who does not scruple to attack the ponderous

Elephant, and seize on his proboscis, will scarcely venture to insult this creature, well knowing that one stroke of his long horn would suffice to lay him in the dust. The Rhinoceros is also cased in armour, or rather in a skin so thick, and so impenetrable, that he neither regards the claws of the Lion, nor the Tiger, nor even the sword or shot of the hunter. This skin is different from what envelops almost every other species of mammalia; it is thicker than that of the elephant, of a dark hue, and impervious to insects. He can neither dilate nor contract it, but then it is rolled up into large folds about the neck, the shoulders, and the crupper, in order to facilitate the motion of his head and limbs, which last are massy, and terminated by large feet.



INDIAN RHINOCEROS.

These animals eat voraciously. The one that was brought from Bengal to London, in the year 1739,

though not above two years of age, consumed daily seven pounds of rice and three pounds of sugar, besides hay, green herbs, and large quantities of water. In coming over, the expense of his food and journey amounted to nearly one thousand pounds. No country but that of Shangalla, his wild and ancient empire, deluged with six months' rains, and full of large rocky basins, screened from evaporation by dark woods, or watered with deep flowing rivers, could supply his enormous draughts. Hence he is necessarily restricted to certain localities; for it is not every place that could maintain him; to migrate is impossible, or to seek an asylum among the sands of Albara. But it is not only for the sake of thus refreshing himself, that he frequents these humid places. Large, fierce, and strong as he is, he must submit to defend himself from the weakest of all adversaries. This adversary is a fly, probably of the genus *æstrus*, which attacks the Rhinoceros, as well as the Camel, and many other animals, and would, according to Bruce, easily subdue him, were it not for the expedient of rolling in the mud, and thus encasing himself, as with a coat of mail.

The great strength of this formidable species, is especially displayed, when hotly pursued by the hunters. A few years since, a party of Europeans, with their native attendants, set forth on this hazardous sport. They had not proceeded far, when they fell in with a herd of seven, led apparently by a chieftain of giant port, and indomitable strength. When first charged by the hunters, the leading Elephants on which they rode, instead of using their tusks, wheeled round, and received the blows of

their opponents on their backs. These blows brought them immediately to the ground with their riders; but as soon as they had risen, the brutes were again ready, and again brought them down: thus did they combat, till four out of the seven Rhinoceroses were killed, when the rest made good their retreat.

Yet it is rare to meet with them in large companies; they are generally solitary and savage. Even then it is dangerous to attack them, for their sense of smelling is so exquisite, that they readily discover whether any one approaches, and on the first suspicion betake themselves to flight, or rush furiously on the enemy. It is therefore hazardous to rouse them up, for the Rhinoceros, when under the influence of fear or anger, moves with astonishing celerity, considering his unwieldiness, his great weight in front, and the shortness of his legs. At first he sets off in a kind of trot, which soon increases to a gallop. When pursued, he runs invariably from one wood to another, and forces himself into the thickest part. Trees of considerable magnitude are broken down as if with a cannon-shot, and fall on either side. Such as are young, pliable, and full of sap, are bent back by his enormous velocity and weight, and after he has passed, restoring themselves by their natural elasticity, sweep the incautious pursuer and his horse from the ground, or dash him against the trees; but should it happen, that he makes towards the plain, and the well-mounted hunter is able to get before him, there is little probability of his escaping. Pride and anger cause him to stop short, and he apparently resolves on victory or death. He stands for a moment, as if to summon

all his courage, and then rushes furiously on the horse. Woe to the rider, if not well practised in this kind of sport. But if calm, collected, and nothing daunted by the terrible charge of the enormous enemy, he turns short on one side, the victory is won. In a moment, his armed companion (for a huntsman never goes alone,) springs from behind him, unseen by the Rhinoceros, who is intent upon attacking his supposed enemy, the horse, and gives him a stroke across the tendon of the heel, which renders him incapable of further flight or resistance. It is terrible to witness one of these enraged animals when hotly pursued, or pursuing. The greatest intrepidity and coolness are requisite, to meet him in open war, and hence the hunters generally prefer to steal upon him unawares. For this purpose they conceal themselves among the bushes, where he loves to hide, watch till he lies down to sleep, or wallow in the mud, and then fire directly at his ears, where alone he is vulnerable.

Yet even this fierce creature has been tamed. M. Cuvier mentions a captive specimen which came under his immediate notice. The creature was young, very gentle, and obedient to his keeper, though subject occasionally to violent fits of passion, during which it was necessary to keep out of his reach. The cause of this occasional violence could not be traced, unless to a natural longing for that liberty which he had never enjoyed, and which excited in him an effort to break his chains, and to burst from his unnatural confinement. The offer of food soon calmed him; he acknowledged those who were most liberal, and as soon as they approached

he stretched forth his long upper lip, opened his mouth, and put out his tongue. His prison being small, he had little opportunity to display the extent of his faculties, and his keeper took no other pains with his education, than to induce him to forget, or to misconceive, his own strength, and implicitly to submit to his master's will; but, judging by the attention he bestowed on everything around him, and by his quick perception of different persons, it might fairly be presumed, that his sagacity would have been more developed under favourable circumstances. His great strength, and the apprehensions constantly entertained that, in one of his paroxysms, he might break his prison, procured him at all times very gentle treatment. Nothing was required without an appropriate reward, and the slight movements that were allowed him made hardly any exertion necessary. He was able merely to turn his head to the right, and to lift up his leg. Nor was it without cause that the power of this enormous animal was thus restricted. The one which Emanuel, king of Portugal, sent to the Pope, in the sixteenth century, destroyed the vessel that contained him; another noticed by Buffon, at Paris, was drowned in like manner, during his voyage to Italy.

The Rhinoceros, when free to select his pasturage, feeds chiefly on thistles and thorny shrubs, which he prefers to the richest pasture. He is also fond of sugar-cane, and different kinds of grain. Not being carnivorous, he neither disturbs the small, nor fears the largest animals, but lives in peace with all, even with the tiger, who often accompanies, without daring to molest him. This peaceful disposition

render the alleged combats between the Elephant and Rhinoceros doubtful. Such combats must of necessity be rare, since there is no exciting cause of hostility; besides, no antipathy has ever been observed to exist between them. Pliny is, I believe, the first who notices their having been led to combat in the brutal shows of the amphitheatre, and hence, most probably, the erroneous opinion, that such is their natural disposition. But every action without a motive is unnatural; it is an effect without a cause, and for this anomaly we have no precedent in animal biography.

By comparing what we know of these colossal animals, in their wild condition and captive state, we may gather sufficient data on which to form a tolerable estimate of their true character. They are endowed with such amazing powers of body, as to repel, if not to overcome, the active ferocity of the Lion, and the ponderous strength of the Elephant; but, at the same time, they seek their subsistence, not by the destruction of animal life, but in the profuse banquet of the vegetable world. That they will resist aggressions none can doubt; and on him who wantonly molests them in their ancient empire, they inflict the most tremendous vengeance; but, if left to the ordinary bent of their own disposition, never has the huge inmate of the African marshes been known to seek occasion to exercise his strength to the injury of any living creature.

The Rhinoceros is hunted for his skin, which makes the stoutest and best leather. His flesh, too, is excellent, and his horn is used for various purposes. The Indians and Negroes esteem every part



Sable Hunters.

to be endowed with some extraordinary qualities; one portion is with them an antidote against poison, another, a specific in medicine: most of these virtues are probably imaginary,—but there are many things in high repute, which have no other value than what is derived from public opinion.

Naturalists recognise four species of Rhinoceros, the one-horned and two-horned of Africa, and two similar species belonging to India.

THE ZEBRA, (*Equus Zebra.*)

WHETHER we consider symmetry of shape, or brilliancy of colour, the Zebra is perhaps the most elegant of all quadrupeds. He unites the figure and gracefulness of the horse, with the light and bounding movements of the Stag. His skin is varied with black and yellow belts, regularly and exactly disposed, and as nicely separated as those of a striped stuff. They extend not only over the body, but over the legs and thighs, the head, and even the ears and tail; so that, at a distance, the Zebra appears as if artificially adorned with ribands, in a manner the most regular and elegant. In the female, these bands are alternately black and white; in the male black and yellow; the hair is short, close, and fine, and its lustre augments the beauty of the colours.

These animals inhabit Africa, and are supposed to extend from Abyssinia to the Cape.

Two fine specimens are now in the Zoological Gardens, London, where they enjoy fresh air, and display their graceful movements.

We know little concerning the natural history of

the Zebra; because he is wild, and, as yet, untameable. Unlike the Quagga, he spurns the yoke of servitude, and proves a rebellious subject to the lord of the creation. At the Cape, many attempts have been made to civilize him, but to no purpose.



THE ZEBRA.

Sparmann relates an instance of a rich citizen who had brought up and partially tamed some Zebras, with the intention of using them for harness, or the saddle. Fancying that their education was complete, he had them yoked to his chariot, although unaccustomed to such restraint; but he had nearly paid dear for his folly, for the Zebras rushed back to their stalls with such terrible fury, as to leave him little inclination to repeat the experiment. Attempts have been made in Europe to

domesticate and reduce them to obedience, like the horse, but hitherto without success; yet persevering kindness may at length bow this beautiful creature to the yoke. A new and elegant addition would thus be made to the varieties of civilized life, since the Zebra scarcely yields to the horse in gracefulness of figure, exclusive of his captivating colours. Mr. Barrow seems to think, that this high-born African might be really tamed, notwithstanding his vicious and obstinate disposition, if proper means were used; but far greater skill, patience and perseverance than the Dutch peasant possesses, are necessary to subdue an animal, naturally haughty and courageous, or to conciliate one that is constitutionally timid. It is not by whip, goad, or spur, that a mettlesome creature, taken in a state of nature, can be conquered. Blows and harshness only serve to increase its resistance and obstinacy. But it appears that this animal may be made to yield to more gentle treatment: and in corroboration of this, M. F. Cuvier cites an instance of a female, which was perfectly tame and gentle, and suffered herself to be mounted, without resistance.

The country of the Hottentots also reveals another beautiful animal, which has hitherto been confounded with the Zebra: this is the Dauw (*Equus montanus*). But a striking peculiarity in the hoof, points out that his habitation is very different from the Zebra's: the stripes, too, are dissimilar: besides, he is never found upon the plains, nor the Zebra on the mountains.

RUMINATING ANIMALS.

THE MUSKS.

THE MUSKS, a species of Antelope, a graceful race, that appertain to the order *Ruminantia*, celebrated equally for agility and elegance, exist in Asia, and the great islands of the Indian Ocean. They delight to wander in places of difficult access, especially on the summits of high mountains, covered with pines. In manners, they resemble the Chamois, the small forest Antelope, and other Alpine quadrupeds, springing with great celerity, and taking refuge when pursued on the most inaccessible summits.

The Thibetan Musk (*Moschus moschiferus*) was unknown to ancient naturalists, although the drug it bears was employed from time immemorial, in Central Asia, and subsequently in Europe. Little respecting them is known, except that they are of a bold and fearless character; that they leap vigorously, and that to facilitate their perilous descents, their hoofs are long, and so constructed as to serve for grasping the scarry edges of the rocks, while either climbing or descending. Their native regions extend from China and Tartary to the mountains above the sources of the Indus, northward. Thibet is especially renowned for the superior quality of the musk which these animals produce.

Others of the same family press on the attention of the naturalist, particularly the Kanchil (*Moschus Javanicus*). These animals are swift, and light of foot, and proverbially cunning. So crafty are they,

that when taken in nooses laid for them, they will, on the arrival of the hunter, stretch themselves motionless, as if dead; but the moment he unties them, without further precaution, they start up and disappear in an instant. A still more singular expedient is attributed to this animal. When closely pursued by dogs, the Kanchil will sometimes make a bound upwards, hook himself on the branch of a tree, by means of his crooked tusks, and there remain suspended till the dogs have passed beneath.

M. F. Cuvier has given a general view of the numerous family of *Cervus*, the Stags, in the *Dictionnaire des Sciences Naturelles*, article *Cerf*. We shall draw from this copious and valuable source our principal observations, and blend with them such remarks from other quarters, or from personal research, as may serve to elucidate the subject.

The graceful genus comprehended under this denomination, consists of those animals, the males of which have deciduous horns, or antlers, destitute of a horny sheath. In general, they are remarkable for the elegance of their forms, the lightness of their proportions, and the velocity of their movements. The legs are firm and slender, the body compact and round, the neck long, and the head well-shaped; their look is meek, yet confident; wild, yet curious; the colours of their coats clean, brilliant, and agreeable. Hence they have been at all times interesting to mankind, and the chase of them an object with the great and wealthy. •

The genus is extended over Europe, Asia, and America: it is found also in Northern Africa, and on

most of the great islands of the Indian Ocean. The Portuguese introduced it into the Isle of France, the British into Jamaica, and the latter doubtless will soon import it to New Holland.

The instincts of this pleasing family, render them respectable among their brethren of the wood and field; those which live more or less isolated may be partially domesticated; but those which live in flocks, such as the Rein-deer, willingly submit to the yoke of servitude; a fact that strongly supports the generally received opinion,—that gregarious animals are alone susceptible of domestication. Some species reside exclusively in forests, others on the open plains, or even in swampy meadows.

THE ELK, (*Cervus alces*.)

THE Elk is the largest of the Stag genus, being higher at the shoulders than the horse. His horns sometimes weigh nearly fifty pounds, and hence, in order to enable him to sustain such an enormous load, his neck is short and strong; this certainly detracts somewhat from that elegance of proportion so generally predominant in the Deer. But whoever asserts that he is wanting either in majesty or beauty, must be imperfectly acquainted with the subject. To those who contemplate him in all the glory of his full-grown horns, amid the wild scenery of his own wilderness, nothing can appear more majestic or imposing. Yet, doubtless, it is the aggregate of his appearance which produces this effect; when his proportions are considered in detail, they seem destitute of that harmony of parts,

which, to the imagination of the spectator, produces the feeling of beauty. The head is narrow and clumsily shaped; the eyes are small and sunk, the ears hairy and asinine, the neck surmounted by a heavy mane, and the throat furnished with long coarse hair; but the body is round, compact, and short, the tail not more than four inches in length, and the legs, though very long, are remarkably clean and firm; this length of limb, and the overhanging lip, caused the ancients to fancy that the animal grazed walking backwards.

The Elk is an inhabitant of northern latitudes; he exists in Europe, between the fifty-third and sixty-fifth degrees, including a part of Prussia, Poland, Sweden, Norway, Finland, Lapland, and Russia. In Asia he is found further south, from the thirty-fifth to beyond the fiftieth degree, spreading over Tartary, and abounding in Japan; if, indeed, the denomination of *elk* is not applied to an undescribed species. In America, he resides between the forty-fourth and fifty-third degrees of latitude, round the great lakes, and over the whole of Canada, and new Brunswick.

Bishop Heber noticed an animal of this description during a Tiger-hunt, in the neighbourhood of Kullcanpoor. The jungle-grass grew wild and high, and swept the howdah of the tallest Elephant, and as they pressed through it, a graceful creature of the Deer kind sprung up; it was larger than a Stag, of a dusky-brown colour, with spreading, but not palmated horns. Mr. Boulderson, the collector of the district, said it was a young Mohr, a species of Elk, and that he had seen a specimen so large, as to

allow a middle-sized man to stand upright between the tips of the horns. He could have shot it, but he did not like to fire at so harmless a creature. The Mohr accordingly ran off unmolested, rising with splendid bounds, to the very top of the high jungle. A little further on, another rose, and also sprang rapidly away. This was most probably a female. The sight of these curious creatures was highly gratifying, nor less so the animation of the hunters, the curious appearance of the howdahs* and men, as they seemed to sail through an ocean of waving grass, while the huge animals that carried them were scarcely discoverable, the anxiety with which every distant motion was looked for, and the continual calling and shouting of both horse and foot. The whole assemblage beautifully harmonized with the grandeur of the scene. In the distance, arose the glorious sweep of the Himalaya, distinct and dark, with icy mountains, towering, in a clear blue sky, over the nearest range; one of these was Keder-Nâth, the peak above the source of the Ganges, the Meru of Indian fable, the centre of the earth,—

Its altar, and its cradle, and its throne;

to which the idea of awful and inaccessible remoteness is attached. Nor had the nearer range,—the giants in the rear, much less of grandeur and sublimity. They were divided into several successive ridges, with the most romantic forms of ravine, forest, crag, and precipice; while at the foot of the lower hills extended a long black level line, so black and level, that it seemed to have been drawn

* Small carriages attached to the Elephant's back.



with ink and a ruler. This was a deep, unwholesome forest, a literal belt of death, over which a thick white mist is often seen suspended.

In pursuing this portion of our subject, we shall have frequent occasion to observe the extraordinary precision with which different species are restricted to certain portions of the globe; the geography of plants is noticed as a curious and interesting department of natural history,—that of animals is far more so.

During the Winter months, the Elk resides chiefly in hilly woods; in snowy weather, he seeks the coverts; in clear, the open spaces. When the Summer is set in, he frequents swamps or the borders of inland lakes, often going deep into the water, in order to escape the sting of gnats, or to feed on such floating herbage as precludes the necessity of stooping. While the snow is on the ground, he chiefly crops the buds, and strips the bark of button-wood, spruce and juniper-pines, birch, and maple, raking off the snow with his enormous horns, which serve instead of mattocks, to search for various kinds of mosses. This is attended with some difficulty; for he is obliged to spread his fore-legs, and even occasionally to kneel.

It is delightful to see these noble creatures thus employed. Some break down the branches of trees, very dexterously, with their ample antlers; others, as we are assured by Huron, and the Canadian hunters, when speaking of the American species, dig up the snow, to get at the mossy covering beneath; but this is generally the work of the whole herd, and is resorted to only in times of

great necessity, and when the snow is two or three feet deep. They then assemble in companies, headed by an old, experienced male, shovel back the snow, and throw it over their heads, their fore-feet, meanwhile, being equally engaged in striking it from under them. Few, perhaps, there are who would not experience, while contemplating such a spectacle, a secret feeling arise within them of gratitude to that Being, who by such means enables these poor creatures to save themselves from perishing in the severest weather.

It seems, too, as if there was a kind of domestic policy among them; they live in herds, each of which, during a part of the year, consists of an aged female, two grown-up, and four young Elks, two males and two females; but during the snowy periods, at least in America, one or more older males sojourn with the family, as if to protect them from injury, and to assist in shovelling aside the snow. Several of these families keep near each other, seeking the coverts, if the weather be unusually severe, and remaining closely pressed together, or trotting in a circle, till they have beaten down the snow.

The young Elks are so simple and void of fear, that during the first months of their appearance, they may be easily taken; and in the water, where they go to avoid the flies, they will suffer the natives to paddle towards them in their light canoes, and even to take them by the head without attempting to escape.

These animals are hunted in North America, chiefly during the early part of Winter, and towards the Spring. While the earth is lightly covered



with snow, it is difficult to attack them; but when the frost sets strongly in, and the hunters run on snow-shoes, they try to turn the game towards ravines, or where the snow is drifted deep. The Huron-hunters relate, that when this is effected, the Elk becomes their prey; but they are obliged to act cautiously; and when he begins to flounder in the snow, to run instantly and fire at him as he turns, otherwise he will endeavour to double on his track, and charge his pursuers with great impetuosity. This method of attacking the Elk, is very ancient, and is thus described by Virgil.

Now that perpetual sleet and driving snow
Obscure the skies, and hangs on herds below,
That starving cattle perish in their stalls,
Huge oxen stand enclosed in wintry walls
Of snows congealed: whole herds are barred there
Of mighty Stags, and scarce their horns appear.
The dextrous huntsman wounds not these afar
With shafts, or darts, or makes a distant war
With dogs; or pitches toils to stop their flight;
But close engages in unequal fight:
But while they strive in vain to make their way
Through hills of snow, resembling stacks of hay,
Assaults with dint of sword, or pointed spears,
And homeward, on his back, the joyful burden bears.
Georgics III.

But though thus easily subjugated when imprisoned in the snow, the Elk has been known to set the Wolf and Bear at defiance with his horns: he acts in his defence with his fore or hind-feet; and his kick is so powerful and quick, that a small tree has been splintered by it.

The Indians are great admirers of the flesh; some travellers think it superior to venison, but it may

be doubted whether a similar judgment would be formed by them when surrounded with domestic comfort. Pennant states, that these animals were once used to draw sledges in Sweden, but that, as their fleetness often enabled malefactors to escape the use of them was prohibited. The hide makes excellent leather, and buff-skins for belts.

This group includes the FALLOW-DEER, a small tribe, which is confined to one existing species.

We cannot ascertain the period of their introduction into Britain. All we know with certainty is that when the Romans, the masters of the fairest and most wealthy climate in the world, turned their arms against the ancient Britons, troops of half-savage men chased the deer of the forest over their gloomy hills, beside lakes concealed in a blue mist and over cold and lonely heaths. These children of the forest, who excelled in the use of the oak and battle-axe, were ignorant of the art that could alone perpetuate the knowledge of their various productions. Their conquerors disregarded any description of them, and ages passed away before the historian sought to record them in his annals. These annals were but imperfectly written by the dim light of science, which shone feebly amid the surrounding gloom; and the facts it served to elucidate were embellished or disguised by succeeding writers. To an Englishman, the subject is particularly interesting; and he will allow us to enlarge a little further on the natural history of a race, whose savage ancestors hunted through those vast primeval forests, which darkly shadowed the present site of populous cities, of colleges, and temples.

It is doubtful, according to Baron Cuvier, whether the species be originally European, though found in a wild state in Lithuania, Moldavia, Greece, Persia, and even China. Tradition says, that the English spotted variety was introduced from Bengal, but it is now unknown in those vast regions. The Anis of India, China, and Persia, probably led to this mistake; for the Spotted Buck is noticed in *Gwillim's Heraldry* (fourth edition, 1660, p. 171), as borne in ancient coats-of-arms, and therefore anterior to British intercourse with India. As the Platogna of the modern Greeks is allowed to be the Fallow-Deer, it must of course be wild, for there are no gentlemen's parks in Turkish Europe, the Grand Seigneur's, perhaps, excepted. In Spain, they are reported to be nearly as large as the Stag, and in Sardinia they are numerous. Hence we may infer that in Southern and Central Asia, Fallow-Deer are indigenous. Baron Cuvier proves, that this graceful species was not unknown to the ancients; with his usual ability and learning, he points out the *Platyceros* of Pliny, and the *Dama* of Virgil and Ovid, as referrible to this animal.

As an article of food, their venison, at least in England, is superior to that of other Deer. Besides the spotted variety, there is another of a dark brown colour, the fawns of which have not even those beautifully varied spots so common to most others. This variety is reported to be hardier, and to have been introduced into England by King James the First, from Norway.

Ayles Holt, adjoining Wolmar, is one of their favourite haunts. These forests are only parted by

a narrow range of enclosures, yet no two soils can be more dissimilar. The Holt consists of strong miry loam, covered with a rich turf, and bearing oaks of a majestic size, while the sister forest, though anciently occupied with lofty trees, is now a barren and sandy waste. Nor less extraordinary is the fact, that though the Holt has been of old well stocked with Fallow-Deer, without any other pale, or fence, than a common hedge, they were never seen within the limits of Wolmar; while the Red-Deer of Wolmar were never known to haunt the glades and thickets of the Hols.

No one species of animals, indeed, approaches so near to another, as the Fallow-Deer to the Stag; yet they tenaciously keep apart, and it is rare to find them together in the same district, unless transported thither.

Fallow-Deer generally associate in herds, and keep together; but when a considerable number occupy one park, they form two distinct groups, which soon become hostile, from a mutual wish to possess the same enclosure. Each of these groups is led by a chief,—the oldest and strongest of the flock: the others follow, and draw up in order of battle, to force their opponents from the best pasture. The method of these combats is very curious. The hostile troops make regular attacks, fight courageously, mutually support one another, and never, apparently, think themselves vanquished by a single check; for the battle is renewed daily, till the weaker are completely foiled, and obliged to remain in the worst pasture. Their nature, it seems, is not so robust as that of the Stag; they are likewise less

common in the forest, and subject to greater varieties. When free to range at will, they affect hilly countries; and when pursued by the hunters, double, and endeavour to conceal themselves by starting another animal. When fatigued and heated, they take the water, but never attempt to cross such extensive rivers as the Stag. Between the chase of this noble animal and his relative, there is, in fact, but little difference. Their knowledge, instinct shifts, and doublings are the same, though perhaps more generally practised by the former than the latter: because, being less enterprising and swift of foot, the Stag has more often recourse to all the instincts with which his Maker has endowed him, in order to elude the vigilance of his enemies.

Bones of the fossil Elk are often dug out of the peat-mosses in Ireland. A skeleton, nearly complete, was discovered in a bed of marl, in the Isle of Man. The height of this animal, independent of his enormous horns, was about that of the common Elk. Heads, horns, and fragments of this noble species are also found scattered in England, in Silesia, beside the Rhine, in Brunswick, France, and Lombardy, where once, undoubtedly, the living species ranged wild and uncontrolled, amid impenetrable forests and vast morasses. As these remains are found almost invariably in recent formations and vegetable moulds, some naturalists ingeniously conjecture, that the destruction of this species may be more recent than is commonly supposed. This inference rests chiefly on the discovery of one of these colossal heads during the year 1600, on the borders of the wandering Iss, near Emmerich, in a sandy soil, sur-

rounded with arms and stone axes. In Ireland, the same peat-bogs, or mosses, which contain these horns, have likewise produced implements of human manufacture; melancholy memorials of forgotten labours of a people once, perhaps, numerous and flourishing, but whose name and race have vanished from the earth.

THE STAG, (*Cervus elaphus*,)

BELONGS to the *Elaphine Group*, which constitutes a small division of the genus; the most celebrated in the annals of the chase, and the fictions of the poets. The Stag is one of those innocent, gentle, and peaceful creatures, which seem designed to animate and embellish the deepest solitudes, and to occupy, at a distance from man, the tranquil retreats of those gardens of nature. The elegance and lightness of his figure, the flexibility of his limbs, his grandeur, strength, and swiftness, the graceful curving of his head, which is rather adorned than armed with living branches, sufficiently distinguish him from all the other inhabitants of the forest.

This interesting animal has also a fine eye, and a quick sense of hearing. When listening, he raises his head considerably. When about to enter a coppice, or any half-forested retreat, he stops to look around him, and scents the wind, in order to discover if any cause of fear exists in that wild place. He is a simple, yet a curious and crafty animal. When hissed or called to from a distance, he stops short, looks steadfastly, and with an expression of admiration. Carriages, men, and cattle, particu-

larly arrest his attention; but they rather seem to amuse than terrify him; and if the people who accompany them are neither armed nor have dogs, he moves on unconcernedly; stops to eat a mouthful, and then gazes again. He appears to listen with great delight and tranquillity to the shepherd's pipe; and the hunters sometimes employ this artifice to encourage and deceive him. In general he is less afraid of men than of dogs, and is never suspicious, or inclined to use any arts of concealment, unless frequently disturbed. His food varies in different seasons. In Autumn, he searches for the buds of green shrubs, the golden flowers of the broom, the purple heath, and bramble-leaves. During the snows of Winter, his provender consists of bark and moss; but if the weather be mild and open, he browses on such green herbs as the frost has spared. When Spring arrives, he goes to seek the catkins of the poplar, the willow, and the hazel, with the leaves and flowers of the cornel. In Summer, when the choice is greater, he prefers rye to every other grain, and the black berry-bearing alder to all other trees.

These beautiful animals are still the proudest ornaments of our parks and royal forests, though few in number, when compared with the dappled herds of other days. Formerly the chieftains used to hunt them with the magnificence of eastern monarchs; and how numerous those assemblages once were, may be learned from that celebrated ballad which commemorates the adventures of the renowned Percy.

To drive the Deere with hound and horne
Erle Percy took his way :
The child may rue that is unborne,
The hunting of that day.

The stout Erle of Northumberland,
A vow to Heaven did make,
His pleasure in the Scottish woods,
Three Summer days to take.

With fifteen hundred bow-men bold;
All chosen men of might;
Who knew full well in time of neede,
'To ayme their shafts aright.

The gallant greyhounds swiftly ran,
'To chase the Fallowe-Deere;
On Munday they began to hunt,
Ere day-light did appear.

And long before high noon they had
An hundred fat Buckes slaine;
Then having dined, the drovvers went
To rouse the Deere againe.

The hounds ran swiftly through the woods,
The nimble Deere to take;
That with their cries the hills and dales
An echo shrill did make.

We also learn from the memoirs of Cary, Earl of Northumberland, that it was customary with the border gentry to request permission from the Lord Warden of the opposite marshes for leave to hunt within their districts. If leave was granted, they assembled their retainers towards the end of Summer, and pursued their sports with hounds and horn; but if they took this liberty unpermitted, then the Lord Warden of the invaded border would not fail to interrupt their sport with his "merry-men all," and

fearlessly chastise their boldness. The earl mentions an instance that occurred while he held the office of Warden. Some Scotch gentlemen resolved to amuse themselves in defiance of his injunctions, and a tragedy equal to that of Chevy-Chase would have ensued, if the intruders had been proportionably numerous and well armed. The English bowmen came upon them and "some hurte was done," though the Lord Warden had given an especial order that as little blood should be shed as possible. The whole party were taken prisoners, and only released on their solemnly engaging to abstain from such sporting for the future.

But the pomp and equipage of hunting are now disused, rebellious chieftains rendered them a pretext to assemble their clans for other purposes than chasing the wild Deer through their good green woods: government accordingly interfered, and a highly penal act was passed to prohibit similar assemblages.

Now, not a single Deer grazes the lofty Cheviot hills, and the neighbouring wastes: the woods are also gone, the beautiful brushwoods and oaks, that once diversified that princely chase. "I have hearde say," observes Leland, "that in Northumberland there be no forests, except Cheviot hills, where is much brushwood and okke ground, overgrowne with linge and some with mosses. This same Cheviot hills, stretchethe xx miles. There is great plenty of Redde Dere, and Roo Bukkes."

Yet still, in later days, the ancient baronial residence would have been incomplete without the appendage of branching antlers, and a forest with

those long alleys, which are figured and described in old books and pictures, where the fern grew wild and high, and dancing lights and shadows seemed to sport in mimic chase over a wilderness of broken ground and coppice-wood, through sunny glades, and beside the streamlet, as it went sparkling down the dell.

Such were the accompaniments of that lordly residence, the Castle of Hamilton, now a dilapidated ruin, frowning on the brink of a precipice, as if in remembrance of its past glories. Beneath, the Clyde sweeps over a dark rugged bed of stone, overhung with trees and bushes, and beyond its old gray towers some aged oaks point out the site of the Caledonian forest, the ancient resort of hound and horn.

Such, too, were the accompaniments of Chantilly, the residence of the Constable de Montmorency. Lord Herbert tells us that a noble forest adjoined the castle, thick-set with tall trees, and an under-wood, and cut into long walks; that while the dogs pursued their flying quarry, Wild Boars, Roe Deers, and Stags, the huntsmen rode along the sand-walks, and met or overtook the game. Nay, such was the passionate fondness of our ancestors for the chase, that it was often manifested in the choice of a residence. An ancient inscription at Wharnccliffe, informs the passer-by, that "the lodge was erected in stern King Henry's days, by Sir Thomas Wortley, a gentle knight, that he might hear the buck-bell in the Summer season." A simple record, yet speaking much to the imagination.

But when the Civil Wars dismantled those lordly

residences, the ancient chases, ridings, and forest-walks were also disparked, and the occupants destroyed. Such of the cavaliers as retained their estates, were generally too much impoverished to re-establish their Deer-parks, and hence the park or chase, one of the magnificent features of an ancient mansion, could no longer be regarded as the natural and marked appendage to the residence of an English gentleman.

Those who remember the noble herd that ranged some years since, over the precincts of Wolmar, may form a tolerably correct idea of what the Deer-park must anciently have been, with all its accompaniments of branching antlers, wilderness, and forest. Yet the royalty now consists entirely of a tract of sand, extending about seven miles in length, two and a half in breadth, covered with heath and fern, and diversified with hills and dales, though without any standing trees. A few cottages are scattered on the verge of this wild district, and their timbers consist of black hard wood, which the owners procure from the bogs, by probing the soil with a sharp instrument. This wood resembles oak, and the old people say that they discover it on a Winter's morning, by the hoar-frost, which lies longer over the space where it is concealed, than on the surrounding morass.

This lonely domain was an agreeable haunt for many sorts of wild fowl, heath-cocks, black game, or grouse; but these have long since disappeared. Nor does the loss of the black-game prove the only gap in the *Fauna Sebarniensis*, for another beautiful link in the chain of being is wanting. This is

the STAG, which towards the beginning of the last century amounted to about five hundred head, and made a stately appearance. An old keeper, of the name of Adams, who, with his father, grandfather, and great-grandfather, successively enjoyed the head-keepership of Wolmar forest, for more than one hundred years, assured Mr. White, of Selborne, that Queen Anne, as she journeyed on the Portsmouth road, did not think the forest of Wolmar beneath her royal regard. She turned from off the road at Lippock, and reposing herself on a bank, which still retains her name, saw with great complacency the whole herd of Red-Deer, brought by the keepers along the vale before her; a sight worthy of the greatest sovereign. But this noble herd gradually diminished; the Waltham Blacks, as they were termed, a hardy race of illicit sportsmen, soon reduced them to about fifty head. One disappeared, and then another, till the late Duke of Cumberland sent down a huntsman, and six yeomen-prickers, attended by stag hounds, to capture the Deer, and send them in carts to Windsor. This was done so effectually, that during the Summer all these noble creatures were conveyed to a place of safety: in the following Winter, when the fawns were also taken off, such fine chases were exhibited as furnished the country-people with conversation for many years.

Mr. White saw one of the yeoman-prickers single out a Stag from the herd. When the swift-footed creature was separated from his companions, they gave him twenty minutes' law, then sounding their horns, the stop-dogs were permitted to follow, and a most gallant scene ensued.

But the rage for poaching did not cease with the removal of the Deer; it still continued, and the Waltham Blacks at length committed such enormities, that government enacted the severe and sanguinary Black Act*. When the excellent Bishop Hoadley was urged to restore Waltham-Chase, he refused, from a motive worthy of a prelate, replying, "That it had done mischief enough."

He who traverses the extensive moors of Devonshire, Cornwall, and the mountains of Kerry, which add so greatly to the magnificence of the romantic scenery around Killarney, falls in occasionally with the straggling descendants of those vast herds that ranged in former times through the forests of this and the sister kingdom.

The chase of this noble animal has become an art, and requires a kind of knowledge which can only be gained by experience. It implies an assemblage of men, dogs, and horses, all so trained, that their movements must concur in producing one common end. The lover of the sport will tell you that the chiding of the hounds, returned as it often is, in a double echo from two neighbouring hills, with the hallooing of the huntsmen, and the sounding of the horn, has a natural tendency to elevate the mind into the most harmless and pleasing exultation. But to us, who are unskilled in this rough sport, the effect is somewhat different; we cannot help feeling for a noble animal, thus flying the pursuit of swift huntsmen and fierce dogs. Like the musing Jaques, we are much inclined to rest

* Statute 9th Geo. I., c. 22.

upon some forest bank, and as hound and horn,
horse and hunter, are sweeping by, to deem them

Mere usurpers, tyrants, and what's worse,
To fright the animals, and to kill them up,
In their assigned and native dwelling-place.

Baron Cuvier mentions several places where fossil remains of the Stag have been discovered. Among others, the cavern of Kirkdale, in Yorkshire, celebrated for the bones of the Hyæna, Elephant, Rhinoceros, and Hippopotamus.

The editors of his splendid work possess the drawing of a horn that was furnished by the Rev. Richard Hennah; it was found at a very great depth in the Porthstream tin-work, parish of St. Austle, Cornwall. The same gentleman favoured them with the loan of another horn, twenty-two inches in length; this specimen lay among large fragments of rolled rock, trunks of trees, leaves, and hazel-nuts, at the depth of about seventy feet. Stags' horns have also been discovered in the same peat-mosses of Ireland as contain the remains of the fossil Elk.

The NEPAUL STAG (*Cervus Wallichii*) evinces a near affinity with the true Stag; but no particulars of his natural history have reached us.

The Stags of India belonging to a section of the tribe called the *Rusa Group* adhere to their assigned localities. None of the wild foresters of nature are more swift of foot; the great continent of India is all before them, and yet restrained by that mysterious influence which controls their movements, they never depart from their native regions. The inhabitant of the jungle never aspires to the sterner soli-

tude of the mountains; nor do his upland neighbours forsake their scanty herbage, for the rich luxuriance of the plain. The GONA (*Cervus unicolor*) of Ceylon, the largest species on the island, which surpasses the European Stag in size, resides among the jungles, and in the deepest forests of that country, and is said to be equally bold and fierce. The SAUMER, or BLACK RUSA of Bengal, (*Cervus Aristotelis*), a strong and vicious animal, is assigned in like manner to the most lonely and deeply wooded haunts. Some British sportsmen, who, on a shooting expedition, had crossed the arm of the Jumna to a woody island in quest of game, on entering the jungle, suddenly found an old male of this species. Observing the Elephant on which they rode, he started up, and gave the alarm with a loud shrill pipe, or whistle. This unexpected notice caused others of his tribe to start up and rush into cover, while he stood at bay, with his bristly main on end, and in a most threatening attitude; but before the sportsmen could prepare their guns, he wheeled round, and dashed into the underwood, as swiftly as a Rhinoceros. Captain Williamson met with one of the same species. He was nearly the size of a Lincolnshire cart-horse, and of a shining black. These fine creatures generally walk at the head of the herd, which consists of about twenty mouse-coloured females.

The Rusas of Malagar, Timor, Malacca, and Mariana, have each their prescribed localities. Like the preceding, they are mostly gregarious. Such, with a few exceptions, are generally the case; for a spirit of sociality seems to pervade the animal creation, though not exclusively confined to animals

of the same species. We know a Doe still alive, that was brought up from a little fawn, with a dairy of cows, and so strong is her attachment to her adopted friends, that she accompanies them in the morning to the pasture fields, and returns with them at evening to the yard. The house-dogs never attempt to molest this confiding creature; but if any strangers pass, a chase ensues, while the master smiles to see his favourite securely leading her pursuers over hedge, or gate, or ditch, till she can reach the cows, who, with fierce lowings, and menacing horns, drive the assailants out of their domain.

THE COMMON ROEBUCK, (*Cervus capreolus*),

Is by far the smallest of European Deer, extremely active, graceful, and even daring; with a full, fine, clear eye; leaping vigorously, and preferring the border of the forest to its shade.

These graceful animals are now scarce in England, but still abundant on the Highlands. They are delicate in their food, and browse on the buds and small shoots of several kinds of forest-trees, in preference to grazing, and thereby commit some damage in the forest. No art or kindness can avail completely to tame them, for their distrust remains invincible.

Horns and fragments of a species similar, apparently, in size and shape, have been discovered in calcareous marl, near Orleans, with fragments of other fossil remains, as well as in the peat-earth of the Somme. It is foreign to the subject of this work even cursorily to allude to the general researches

of geologists; but we cannot avoid recurring for a moment to that period when these graceful animals, and their giant companions, the Elephant and Rhinoceros, grazed beside the lakes of Central France; then in all their beauty and repose. Who that had seen myriads of tender insects frequenting the banks, the Crocodile and the Tortoise emerging from the water, lake-birds swimming on its surface, and herds browsing securely amid forests of palm-trees, would have conceived it possible that all this luxuriance of life, this variety and beauty of design, constituted no more than a transient scene! How incredible would the prophetic voice have sounded, even from amid the gigantic trunks of tree-ferns, and the remains of other plants, widely distinct from such as clothed the adjacent plains and mountains, and apparently indicating an intensely hotter climate, which should have foretold that these magnificent lakes must one day vanish, their rosy beds become consolidated, and then, after being buried under repeated streams of liquid lava, again be furrowed into deep valleys, with intervening hills; and, lastly, adorned and enlivened with a new creation of animals and plants! That further, the granite would not only give birth to burning mountains of prodigious magnitude and height, but to a chain of at least three thousand minor cones, and to as many fiery torrents of lava; in a word, that the whole scene, the temperature of the air, the surface of the land, hill and valley, lake and river, with all the countless myriads who then enjoyed the gift of life, were doomed in the revolutions of futurity, like the

Heavens on the opening of the sixth seal, to depart as a scroll, when it is rolled together*.

While tracing such terrific displays of Omnipotence, we are naturally led to inquire into the moral cause which induced a merciful Creator thus to mar the beautiful productions of his hand: for reason as well as revelation declares that a moral cause must have existed. Those who were placed in this magnificent world as spectators and enjoyers of his bounty, must have violated the commandments that were given to promote their ultimate well-being, or so wise and so beneficent a Being would not have overturned the glorious displays of his benevolence and power.

THE GIRAFFE, (*Camelopardalis giraffa*.)

WE have now to consider an animal of so extraordinary a form, and lofty stature, that even the stuffed spoils, the almost shapeless representations of the living creature, produce in the beholder a mingled feeling of astonishment and awe; his imagination is involuntarily led back to the early epochs of the world, when colossal creatures peopled the earth, and were the undisputed possessors of every region. He may fancy himself beholding a survivor of the great diluvian catastrophe, when the Mastodon and the Megatherium were swept away. This colossal creature stands isolated amongst ruminating animals; his most striking characteristics offer a mixture of several genera, among which it is difficult to determine whether he should be classed with the Camel

* *Quarterly Review*, LXXII.

race, or assigned to the Stag and Antelope. His noble height, long neck, callosities on the knees, and a want of spurious hoofs, assimilate him closely with the former, and so obvious is this approximation, that it did not escape the notice of the ancients; but then the pedunculated form of the frontal processes, in the shape of horns, recall to mind that character in the Muntjak Deer; while the stiff hair that crowns their summits seems to want only the cementing gluten, in order to become true horns. This affinity is maintained by other characters, which it is foreign to our purpose particularly to specify



THE GIRAFFE.

The name Giraffe is derived from the Arabian *Zuraphatta*, which is itself corrupted from *Amharir*

Zirathaha; the Romans, who had seen this animal exhibited from the time of Cæsar, described it by the appellation of *Camelopardalis*, on account of its similarity to the Camel in form, and to the Panther in spots. Pliny, Ælian, and Strabo, briefly noticed the colossal creature; but Heliodorus, Bishop of Tricca, is the first who furnished any satisfactory account. "The ambassador," said he, in his *Æthiopica*, "of the people of Abyssinia, brought presents to Hydaspes; and among other things, there was an animal of a strange and wonderful species, about the size of a Camel, marked with florid spots; the hinder parts were low, like those of a Lion, the shoulders, forefeet and breasts, disproportionably elevated; the neck was small, and lengthened out from its body, like a swan; the head in form resembled a camel's, but twice as large as that of a Lybian ostrich, and it rolled its eyes, which had a film over them, in a strange manner.

This noble animal, the loftiest and most harmless creature that wanders over the plains of Ethiopia, is said to be sometimes nearly twenty feet high. But among the domestic specimens noticed by the editors of Cuvier's *Animal Kingdom*, Mr. Burchell's male in the British Museum is the tallest, and measures seventeen feet six inches; the rest did not exceed sixteen. It is strange that an animal so easily domesticated has never been subjected to man; his services would be invaluable.

Those who visit the vast plains of the interior, and especially the great Southern Desert, often meet with small families of seven, eight, or even fifteen of these animals. These wild districts are destitute

of herbage, or succulent vegetation, but it matters not to the stately Giraffe, his giant port and the dimensions of his neck and limbs would scarcely brook the gathering of low herbage; that great Being, who has consigned him to wander through pathless wastes of sand, has provided the *Mimosa Camelopardalis* for his use.

One of these fine creatures is now in the Jardin des Plantes, at Paris; his arrival excited great interest; he was accompanied by an escort of twenty *gens d'armes*; a Dafur moor, and a negro of Sennaar, dressed in their national costume and turbans, held the animal in a halter, followed by two other Africans.

It was curious to see the stately Camelopard, with his escort of Egyptians, *gens d'armes*, and idlers, thus approaching his new dwelling. His elegant head reached to the foliage of the chestnut trees; his long neck rose gracefully above the throng, and his large brilliant eyes seemed full of mildness and joy. The moor and negro, Hassan and Atar, proud of this beautiful animal, had ornamented his neck with a vast wreath of flowers, near which were suspended several Arabian amulets.

Among the many who afterwards visited him, were two Egyptians in the dress of their country, and very affecting it was to notice the delight with which he immediately recognised them; he loaded them with caresses, his countenance exhibited the liveliest joy, and every movement indicated that the sight of these men awakened in him the most agreeable associations. They, no doubt, brought to his remembrance the clear cloudless skies of Egypt, and

the boundless plains on which his young eyes first opened to the light.

The cabinet of the Jardin des Plantes was the first European establishment that possessed even the skin of a Camelopard. Since the Roman conquest, none were brought from Southern Africa; and it seems that they were even rare in those vast regions.

Though naturally unoffending, the Camelopard will not submit to unprovoked aggressions. From the great elevation of his head, and the comparatively small dimensions of most other animals, his hornlike processes on the forehead are useless as weapons of defence, but he can strike with prodigious force. Besides, he has another, and even more efficient means of protection. Mindful of his peaceful disposition, and that, notwithstanding his length of limb, he is not swift of foot, his Creator has wrapt him in a skin of such impenetrable thickness, that even the talons of the Lion cannot pierce it. Hence the Camelopard is often seen bearing one of these tyrants of the desert upon his back, for a considerable distance, and then hurling him off with a prodigious effort, regardless of his rage and talons.

This unoffending creature was exhibited, with others of a sterner mood, in the cruel sports of the amphitheatre. By the order of Probus, a number of large trees, torn up by the roots, were transplanted into the midst of the circus; the spacious and shady forest was immediately filled with a thousand Ostriches, a thousand Stags, a thousand Fallow-Deer, and a thousand Wild Boars; and all this variety of game was abandoned to the riotous impetuosity of the multitude. The tragedy of the succeeding day

consisted in the massacre of a hundred Lions, an equal number of Lionesses, two hundred Leopards, and three hundred Bears. The collection prepared by the younger Gordian for his triumph, and which his successor exhibited in the secular games, was less remarkable for the number than for the singularity of the animals. Twenty Zebras displayed their elegant forms and variegated beauty to the eyes of the Roman people; ten Elks, and as many Camelopards, lofty and harmless creatures, were contrasted with thirty African Hyænas; the most implacable savages of the torrid zone. The unoffending strength with which their Maker had endowed the greater quadrupeds was admired in the Rhinoceros, the Hippopotamus of the Nile, and a majestic group of thirty-two Elephants. While the populace gazed with stupid wonder on the splendid show, the naturalist might observe the figure and properties of so many different species, transported from every part of the known world, in the Roman amphitheatre. But any benefit that science might derive from folly, was surely insufficient to justify such a wanton abuse of the animal creation.

And there, red murder breathed her bloody steam;
And there, where buzzing nations choked the ways,
And roared, or murmured, like a mountain stream,
Dashing or winding, as its torrent strays;
There, where the Roman millions blame or praise,
Was death or life, the playthings of a crowd.

As the Romans were acquainted with the Camelopard, he must doubtless have been brought by

them from the north of the equinoctial line*; modern naturalists have only known him since the researches of Mr. Paterson, Colonel Gordon, and M. Le Vaillant, in Southern Africa. Mr. Park noticed a gray animal of giant height, while effecting his escape from captivity among the Moors; and which, though merely seen in passing, he could not mistake for any other than a Giraffe. This was, doubtless, the wild Camel of the mountains; the existence of which has been attested by several negroes of the interior. Besides, in the Prænestine Mosaics, of the time of Marcius, where two spotted Camelopards are seen together, a larger and short horned animal is likewise represented, but spotless, with the letters YABOYC written over.

The *Cavicornian Family*, hollow horned, as the Bull, which is next in order, comprises a class of ruminants, constructed after one single model, and provided with real horns. Although the number of the species is considerable, it is difficult to designate them by distinct and permanent indications. They may be viewed as forming one great family, divisible into two tribes, the *Caprine*, goats, and *Bovine*, buffaloes; but it cannot be denied that this division, though convenient, is nevertheless arbitrary in its limits, for the passage from one to the other leaves a doubt where that limit should be fixed. Neither artificial nor natural characters

Those now exhibiting in this country are from Northern Africa.

enable us to mark the links of the great chain of being, or rather the knots in that complex web, by which every kind of animated being is connected with others in a greater or less degree of affinity.

We have now to contemplate a vast variety of living creatures, arranged by naturalists into families, genera, and groups, and subdivided into numerous varieties. They are exceedingly beautiful: very different in their forms and instincts, and yet admirably adapted to their several localities and haunts. It has often occurred to us to notice the remarkable precision with which individuals, families, and tribes, are assigned to various localities; yet, perhaps, in no one case is this appropriation more decided, than in the following striking instances.

As species, or varieties, the *Orygine Group* is widely dispersed over an immense extent of territory: perhaps from the borders of China, but certainly through Southern Persia, Arabia, the Deserts of Northern and Middle Africa, to Senegal, southward as far as the Cape of Good Hope. Their great strength and swiftness, aided by ability to feed on acrid succulents, and thorny shrubs, account for the vast extent of their native regions.

Some prefer mountains and elevated woody countries; others the plains and sandy deserts, where they seem to subsist with very little water. Strong, vigilant, and active, they repel the Hyæna and Jackal; they can even intimidate the Lion. If assailed, or driven to defend themselves, they raise the tail, toss the head in a menacing manner, and then, with a tremulous and shrill warning snort, they dart with incredible velocity upon their enemy. We have

seen spears, manufactured by the natives of South Africa, armed with the horns of the Oryx, from which the tribe takes its name.

Five individuals appertain to this division: one of these, the Nubian, is probably the *Toa*, or *Too*, of the Hebrews and Egyptians. It is portrayed in the hieroglyphic representations on the tombs of the ancient kings.

The CHIRU, of the same group, might have still remained unnoticed in the elevated wildernesses of Central Asia, if the people of the country had not asserted it to be the Unicorn; all the Oryxes are liable to break their long and slender horns, in vigorous charges on their foes; and hence we may infer that the report of Unicorns, so ancient, permanent, and universal, depends solely upon these accidents; and that the Chiru is most probably the Unicorn of the ancient Persians.

The elegant *Gazelline Group* reside in Africa and Asia: they are a gay and graceful race, and bound with astonishing celerity through their native wilds.

Through flowery champaigns roam these joyous creatures,
Of many a colour, size, and shape, all graceful
In every look, step, attitude prepared,
Even at the shadow of a cloud, to vanish,
And leave a solitude, where thousands stood,
With heads declined, and nibbling eagerly;
As locusts when they light on some new soil
And move no more, till they have shorn it bare.

The Antelope is spread nearly over the whole of Africa, partially, in Eastern Europe, and throughout the plains of Western, Middle, and Southern Asia.

It is worthy of remark, how striking in their

wild solitude are the scenes which continually impress the traveller, as he passes under ancient trees, whose gray arms meet above his head; through immense forests, that have never echoed to the axe; over rivers, where bridges are unknown; along paths in the thick-tangled jungle, which have been made by elephants during their constant migrations, through a country which they have possessed for ages. Here, in pursuing his weary way over hills, and across rivers, he sees around him wild animals, as they rush through open spaces between clumps of bush, or bound across the level line of the vast plains. There is the stately Koodo, with its spiral horns; the Hartbeest, that gallops away, and then proudly turns round to gaze on the intruder; the Bush-Bock, that rises just before the horse's feet; and the beautiful Spring-Bock, with its bounding motion, and spreading the snowy fur of its back as it flies, with a celerity that seems to laugh at the hunter's speed.

The *Neotragine Group*, including the smallest species of the genus, are confined to Central and Southern Africa. Their shrill warbling cries are often heard, at intervals, in the depths of the most solitary forests; and no sound can be more impressive, especially if mingled with the loud roaring of the torrent after heavy rains, when the wind favours its transmission.

The *Tragelaphine Group*, uniting considerable elegance of form with singularly opposed colours, and horns departing from the Antelopine type, reside

principally in the deepest glens and woody mountains of Nigritia and South Africa; the *Næmohadine* gradually declining from the typical character of the Antelope, both in form and limbs, and approaching more and more towards the genus *Capra*, are confined to the forests and high mountains of Central Asia, and the great Indian Archipelago.

Now look towards Southern Africa, for the four distinct groups which appertain to the genus *Damalis*, and observe how wonderfully they also are restricted within certain limits. Among these, the *Bubalis* and *Caama* are most distinguished; the first is found on the deserts, and in the wildest solitudes of Africa, north of the line from Morocco to the Nile; the second, a most majestic creature, resides with his companions in small flocks on the barren flats in the interior of Caffraria.

Troops of docile and confiding Impoofos frequent the rocks of the Karoo district, in company with wild Ostriches; the solitary Cannã prefers the Great Desert, and in the woody portions of the Cape colony, and about Caffraria, on the plains of the Karoo mountains, and about the sources of the rushing Garceps, the powerful and magnificent Koodoo delights to wander, feeding as he goes, on the buds of trees and shrubs, and defending himself with undaunted spirit.

Southern Asia has the *Portacine Group*, the Hog-deer, a race connected with the Buffalo, by the position of the horns, a round bulky body, and cow-like feet. Northern India contains the rapid Neelghau. Central and Southern Africa, the native country of innumerable species, discloses the genus

Catoblepas, which includes a race of creatures that no human art has yet availed to soften, of fierce and terrible appearance, somewhat resembling a Bull, with blood-red eyes, and a shaggy brow, swift of foot, vicious, and fond of fighting, living in herds on the desert, and apparently as regardless of shade and water, as the Ostrich.

We may not dismiss this portion of our subject, without again adverting to a few among these various families and groups, concerning which some particulars of interest may be added.

THE ANTELOPES.

THE Antelope is noticed in English history, as a heraldic bearing belonging to the Plantagenets, during the reign of King Edward the Third, about the close of the fourteenth century. The Antelope was symbolical of an honour, held by the House of Lancaster. John, the great Duke of Bedford, bore his arms supported by this animal; and from the time of Henry the Fourth, the office of Antelope *poursuivant* had been instituted, and continued to the end of the Lancasterian branch. Whether the heralds of those times had any obscure knowledge of the animal, through the medium of the Crusaders, cannot now be ascertained.

It is foreign to our purpose even briefly to narrate the different characteristics of these graceful creatures. But it may be remarked, that their speed, in general, surpasses that of every other mammiferous animal.

The females, particularly of the gregarious species, are gentle and confiding; but the males are often

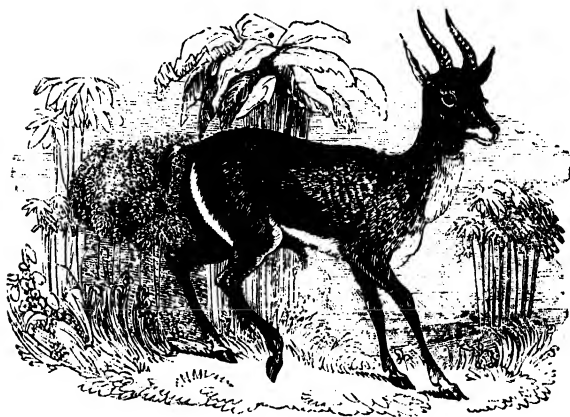
vicious, and subject to sudden fits of caprice. The beauty of their soft and large dark eyes, has long been the theme of Arabian and Persian poets,—and is thus elegantly noticed by one of our own:

The wild Gazelle on Judah's hills
Exulting yet may bound,
And drink from all the living rills,
That gush on holy ground.
Its airy step, and glorious eye,
May glance in tameless transport by.

The very name, GAZELLE, by which several of the genus are distinguished, designates this animal as a young Fawn; and also signifies a tender and elegant female. It is applied, besides, to a species of highly polished and musical stanza; and we may infer, that in the beautiful regions of the East, these animals attracted the notice of mankind in the primitive ages of that land of early civilization, for we find them in the oldest mythologies, and among the symbols of its astronomy. In the Hindu zodiac, the Antelope holds the place of the Capricorn; and on this graceful animal, Chandra, or the moon, is fabled to ride. In the Institutes of Menu, certainly more ancient than the Macedonian invasion, we find that the Brahmins were not only occasionally allowed, but also directed, to feed on the Ena, or spotted Antelope.

These animals display, in common with other inhabitants of the thick forest of the Terrai, a singular instinct with regard to the malaria which at certain seasons of the year pervades those unwholesome regions. The whole skirt and margin of the Himalaya range of mountains are surrounded by

a thick forest of nearly two days' journey, with a marshy soil and atmosphere, more pestilential than the Sunderbunds, or the Grotto del Cane, a literal belt of death, which even the natives tremble to approach, and which, during the rainy season, everything that has the breath of life instinctively forsakes. Antelopes, Monkeys, and Wild Hogs, make excursions into the elevated plains, and Tigers



THE GAZELLE.

ascend the hills. Persons, such as dak-bearers, or military officers, who are obliged to traverse the forest in the intervening months, agree that not even a bird can be heard or seen in the frightful solitude. Yet during the heaviest rains, while the water falls in torrents, and a dark canopy of clouds tends to prevent evaporation, the forest may be passed in

tolerable safety. It is during the extreme heat, and immediately after the rains have ceased, in May, the latter end of August, and the early part of September, that the deadly malaria prevails. In October, the animals simultaneously return; by the latter end of that month, the wood-cutters and cowmen cautiously resume their occupations. From the middle of November till March, troops pass and repass, and with precaution, no risk is usually apprehended.

The large Gazelles live in families; but the smaller are gregarious, keeping at a distance from wooded scenes, and residing principally on barren deserts. Yet they forsake them during the night, to approach cultivated fields; and it is said that, in the desolated provinces of Abyssinia, they are fond of resorting to the fields, where the labours of forgotten men have left abundance of grain growing wild in order to seek food and cover; thus concealed, they are hunted with great difficulty. The Arabs and Bedouins of Africa, and Western Asia, wait their arrival at the springs, and steal upon them unawares. The Persian nobles, the wealthy Moors and Turks, pursue them with the hawk, or slip the Persian Lynx, or Chetah, to surprise them; but even when the hawk is flown, it is generally necessary to circumvent the quarry. Though they commonly feed at dawn and twilight, wandering travellers sometimes come unexpectedly upon a herd at night; and then it is observed, that if no dogs are present, they will scarcely rise, or if they are induced to go further, they presently lie down again. But should any unusual noise disturb them, they immediately trot off,

and evince symptoms of anxiety till the return of daylight. During the ill-fated expedition to discover the source of the Zaire, or Congo, the devoted travellers saw many herds of Antelopes, of various and new species, chiefly belonging to this group. Some of these were obtained, but only a few short notes respecting them reached England. Dr. Smith's memoranda were sent to his relations at Christiana, but those of the accomplished Cranch were, unfortunately, in a peculiar kind of short-hand, hitherto undeciphered.

THE SPRINGER ANTELOPE, (*Antelopeus euchore*.)

Is an object of much interest on account of its migratory habits. This species reside on the plains of Southern Africa, to an unknown distance in the interior; they assemble in vast herds, and migrate from north to south, and back again at the time of the monsoons. These migrations, which are said to take place in their most numerous forms only at the interval of several years, appear to proceed from the north-east in masses of many thousands, which devour every green herb. The Lion has been seen to travel, a terrible intruder in the midst of the compressed phalanx, with only as much room between him and his affrighted victims, as the fears of those immediately around him could procure space, by pressing outwards. The foremost of these vast columns are in good condition, the rear equally lean, while they journey on in one direction. But, with the change of the monsoon, when they return towards the north, those that were in the rear become the leaders, fattening in their turn, and leaving the

others to starve, or to be devoured by the numerous enemies that follow their perilous career. Figure to yourself an immense plain, belted round by one of those deep primeval forests, through which the whirlwind has opened green and spacious vistas, full of splendour and repose; a noble herd of Springers, appearing like a cloud on the horizon, advancing slowly and majestically, with all the glory of their lyrated horns, now impelled by fear, either of the hunter or of beasts of prey, and encumbered by the greatness of their numbers, bounding up into the air, and discovering the beautiful white spots that so fancifully adorn their croups, which become dilated with the effort, and then close again in their descent. He who has witnessed this striking effect, will not readily forget it.

These creatures delight in the wildest solitudes; and often break, with their light forms, the distant outline of some vast plain, and then, in a minute, clear the intervening space, cross the traveller's path, stop and turn to gaze, and, if pursued, burst away with their bounding motion. Cowper Rose, in his interesting narrative of *Four Years in Africa*, mentions having seen them rise two yards above the heads of their companions, and at times, even higher, while spreading the white fur on their backs, and looking round on their pursuers in triumph, their slight limbs appearing almost suspended in the air. It was curious, too, to observe the various positions into which they threw themselves when taking these lofty leaps: sometimes their backs were raised and curved, their heads bent downwards, and all their feet brought together; at others, their bodies assumed

a hollow form, and the slender fore-legs were thrown straight out from the shoulder. It almost seemed as if the beautiful creatures had a pride mingled with their fear, in showing how various and graceful were their attitudes.

THE SAIGA, (*Antelope colus*,)

RESIDES on the shores of the Danube, south of the Carpathian range, on the uncultivated parts of South-eastern Poland, along the Black Sea, round the Caucasian Mountains, Altaic chain, being confined to the north by the thirty-fifth degree of latitude. Throughout this extensive region, the soil is uniformly sterile, salt, and sandy; and varied only with saline and bitter plants, many of which are ever-green. This coarse fare, together with the brackish water of the pools, afford sustenance to the Saiga, and communicate their flavour to its flesh, though not sufficiently to render it unpalatable in Winter, while it is rejected during Summer, on account of the numerous flies that infest and pierce the skin.

The manners of these animals are social, and migratory, in the Autumn; they assemble, sometimes to the number of ten thousand in a herd, and journey towards the southern deserts, whence they return, in smaller companies, when Spring approaches, and the wandering tribes of Tartary begin to change their quarters. Loving the neighbourhood of the springs, it seems as if the sound of water, running swiftly, acted upon them like a spell. While assembled around these favourite haunts, sentinels are posted at convenient distances. When domesticated, they will go to the fields, and

return, without desiring to escape; they know their master's voice, and seem gratified with his notice. They select leafy plants from the hay, but tenaciously refuse the grasses, and never attack the buds of trees.

THE DSEREN, (*Antelopeus gutturosa*,)

Is found in Mongolian Tartary, in the deserts between China and Thibet, in Eastern Siberia, and principally on the great and sandy desert of Cobi. These animals are gregarious, assembling in vast herds towards Autumn, approaching the habitations of man in Winter, and sometimes mixing with the cattle; feeding on herbs and grasses, and rejecting the bitter saline plants. They are equal in swiftness to the Saiga, less easily fatigued, and make surprising bounds. Unlike many of their kind, they have so great a dread of water, that they will rather allow themselves to be taken than plunge into it; and yet, if an accidental slip precipitates them into a mountain-torrent, they soon extricate themselves. Woodlands and forest scenery are equally objects of terror to them, perhaps from a conscious feeling that their bounding speed will cause them injury. According to Du Halde, they are known in China by the name of Hoang, or Yellow Deer.

THE COMMON ANTELOPE, (*Antelopeus cervicapra*,)

THE most celebrated species in the whole genus, is not less remarkable for beauty of form and elegant distribution of colour, than for the interest it has excited from the remotest antiquity. Astronomers

and philosophers placed the Antelope among the constellations, harnessed him to the chariot of the moon, and represented him as the quarry of the gods. The Hindoos consecrated him to Chandra: female devotees and minstrels are fabled to lead it captive by the harmony of their instruments and sweet-warbling song; and the Brahmins are directed to feed upon his flesh, at seasons prescribed by the Institutes of Menu.

Two Indian paintings have been recently shown us which further serve to illustrate the interest they have excited. The first represents a female, of the highest Brahmin caste, bearing the Been, a stringed instrument, on her shoulders, and inducing a tame Antelope to follow, by holding out her beads; the second portrays an Indian and his wife, of the hill tribes, approaching an old Antelope under cover of a shield of green leaves,—the woman ringing a bell, while the man shoots him with an arrow; in both, the figures of the animal are spirited and correctly drawn.

Individuals are often domesticated; and may be seen both at the Zoological Gardens and in gentlemen's paddocks. They live peaceably with the Deer and Sheep, walking occasionally round their fence, then skipping more rapidly, and at length bounding with great force and velocity. They also evince much curiosity, come towards new objects even when terrified, and it is generally after reconnoitering something strange, that their gambols commence. In a wild state, they spread over the peninsula of India, to the north and west, as far as the Indus; but as they do not resort to the sandy

deserts, it is probable that they extend along the more fertile uplands of the Persian Gulf, as we are assured that Indian travellers meet them near Bassora, on their way over-land.

They are also found in Palestine, where they often bring to mind the present desolation of that once cultivated country. Buckingham observed large troops of these graceful creatures; when having reached the end of an elevated and stony plain, he went down over the brow of a hill, into that part of the territories of Ammon, where the spies were sent by Moses, when encamped in the wilderness of Paran, "to see the land, and the people that dwelt therein, whether they were strong or weak, few or many *." As our traveller passed on, he observed, in various directions, traces of former cultivation and great fertility: from the summit of a rising ground, the wood scenery was most beautiful, and the fresh full foliage of evergreen trees was strikingly contrasted with the snowy beds out of which they sprang: in the open ground, troops of Antelopes, startled by the sound of unusual steps, were seen to glance in "tameless transport;" and from a woody thicket rushed forth two large Boars, nearly black, and apparently ferocious. Their appearance was wild in the extreme,—and they dashed across the path without stopping; a happy circumstance: for the horses, untrained to hunting mountain Boars, were evidently much alarmed at the sudden appearance of these wild creatures. Yet Ammon was not, in ancient times, the haunt of such

* Numbers xiii. 18.

as these; beside the brook of Eshcol, grew that one rich cluster of grapes, which two men bore on a staff between them; pomegranates, also, were there, with figs, the produce of the land. It was then a land flowing with milk and honey; and became still more abundant when given into the hands of that wandering nation, who had been sustained for forty years by a perpetual miracle.

The *Riet Rheebok*, known at the Cape by the name of REED ROEBUCK, is an animal of great swiftness, and moves with such rapidity, that he seems to glide over the desert like a mist driven by the wind, and favoured, by the indistinct colour of the fur, a kind and merciful provision for his safety, he is immediately out of sight. The bushmen and western tribes make lance-heads, awls, and other tools of the horns, and occasionally cloaks of their skins for female dresses.

THE CHAMOIS, (*Antelope rupicapra*.)

THOUGH well known to inhabit the wildest and most abrupt regions, never ascends to those elevated ranges, which the Ibex alone delights to visit. Of a less hardy constitution, the valleys of the glaciers form the limits of the temperature which he is able to support; and below the woody belts, he rarely, if ever, descends. His physical strength is thus in harmony with his favourite localities: for though inferior to the Ibex in activity as well as vigour, he runs rapidly along the most perpendicular ledges, springs across frightful precipices, and bounds from rock to rock with surprising steadiness and precision. When about to leap a precipice, he projects his fore-

feet in a sliding posture, and firmly grasps the edge of the rough rock with the hoofs of the hind-ones, till he has lowered himself as far as possible; then bounding forward, he gives his body a sudden jerk during his rapid descent, and then alights first on his hind-feet with such apparent ease, that the fore-ones drop close to the hinder, and all expression of effort vanishes. We remember to have witnessed this exploit, down a precipice of nearly thirty feet. The Chamois also runs upon the snows of the glaciers with equal ease; but on smooth ice, his steps are awkward and uncertain.



THE CHAMOIS.

Few animals are more difficult to circumvent, or to run down; and hence few occupations are more perilous than that of a chasseur. Mr. Coxe was



Chamois Hunters

conducted to the source of the Aar by one of these intrepid men. He expatiated with great enthusiasm on his profession notwithstanding its toil and danger, and the necessity of often exploring those terrific passes, where the hunters move on with speed, and say nothing, lest the agitation of the air should loosen the overhanging snows, and consign them to instant death.

When morning streaks the azure skies,
And lines with light the mountain brow:
'Tis theirs, with hoand and horn to rise,
And chase the Chamois through the snow.
Or higher still, with giant bound,
Firm on their icy poles to pass;
Mute, lest the air, convulsed with sound,
Reud from above a frozen mass.—ROGENS.

We are often indebted to the elegant pen of the late Bishop Heber, for much new and valuable information relative to such animals as abound in the upper provinces of India; nor less interesting are his sketches of their usual haunts. The Chamois frequently crossed his path, while ascending a steep and rugged road over the Gaughur, through a succession of glens, and views, and forests, of the most beautiful description. "I never saw such prospects before," said this amiable prelate, "and had formed no adequate idea of such. My attention was completely strained, and my eyes filled with tears; everything around was so wild and magnificent, that man appeared as nothing, and I felt myself as if climbing the steps of God's great temple." Various animals inhabited these Alpine regions; some well-known in Europe, others new to our traveller as the trees to which they clung. White

Monkeys played their gambols on the cedar, ilex, and venerable peepal trees: Wolves and Bears appeared at intervals in the deepest solitudes of the forest, and sportive rejoicing Chamois bounded along the rugged flanks of the most inaccessible acclivities; in the distance, and between the two principal summits of Mount Guaghur, nearly eight thousand six hundred feet above the sea, the snowy mountains of the Himalaya burst on the astonished sight with incredible magnificence.

The Chamois are sociable and affectionate; they live in herds from fifteen to twenty, sometimes in greater numbers. Their food principally consists of the richest mountain herbs. During Winter, they feed on the buds of juniper, fir, and pines; in Switzerland, they have been observed to lick, with avidity, certain sandstone rocks, most probably on account of a saline impregnation. Their feeding-time is commonly in the morning and evening; seldom in the middle of the day. Much heat is unwelcome to them: in Winter they usually seek the sunny flanks of the mountains; while in Summer the northern aspects are preferred. Notwithstanding their habitual residence among precipices, it has been remarked, that they are even more subject to fits, resembling apoplexy, than the common goat.

The usual voice of the Chamois is a hoarse bleating; it is the mutual call of the herd; but when alarmed, they send forth a shrill, whistling noise, in order to warn their companions. Shy, vigilant, and keen-scented, they neither feed nor repose without stationing sentinels on the nearest

pinnacles or precipices. When danger approaches the shrill cry is given, and repeated by the whole community. The youngest then run off, while the others, greatly agitated, bound from rock to rock, as if to reconnoitre the enemy, until re-assured, or convinced that it is best to retreat. When thus compelled to fly, they will, if possible, escape to the most inaccessible cliffs. If the hunters dare pursue them, they have been known to pitch headlong on their foe, and dash him into the abyss beneath.

The Chamois are gradually disappearing from the mountains of Switzerland and Savoy,—from those rocky pyramids, covered with perpetual snow, those awful obscure valleys, through which innumerable torrents rush murmuring with indescribable magnificence, those deserts, whose solitude and calmness are not interrupted even by the song of birds; yet the species are still numerous in the Tyrol. On the mountains of Carniola, Greece, and Carpathia, where they are named *Carnusa*, few remain. Haller informs us, that two distinct breeds, if not varieties, reside on the Alps; the larger, or Chamois of the woods; the smaller, or Chamois of the Alps. These animals seem unalterably attached to the wildest mountain scenery, and yet they will associate with goats and other cattle, and even resign their liberty apparently without reluctance. They then evince the same timidity and curiosity as their brethren.

A Chamois kept in an enclosure showed, at first, great signs of shyness to some naturalists who visited him; but he soon became familiar, stood erect behind them to look over their shoulders, and

endeavoured to steal their implements from off a chair. If checked, he would bound away for a few yards, and return again: when forced into a corner, he lay down quietly, and suffered himself to be handled.

THE NEELGHIAU, (*Duma risia*.)

FEW and brief are the particulars which naturalists have given respecting the NEELGHIAU, a fierce creature, whose generic appellation, *risia*, is derived from the Hindu rojh, or lightning, which aptly expresses the velocity of his attacks. They relate that, endowed with considerable strength, he generally resides on the borders of the jungle or in the woods of Northern India, where he affords a meal to the Asiatic Lion, and sport to the grandees, who hunt this animal, as formerly, with whole armies, and in the manner that Arungzebe conducted his sport between Lahore and Delhi. They also add, that when hard driven, he will turn upon the horsemen, and be the first to charge; that he is still common to Central India, in the district of Camaghur; that his race has spread over the plains and valleys at the foot of the Himalaya range, where forests and heavy covers are at hand; and that he is probably designated in the Punjab by the Persian name *Gaw-zan*, or Ox-striker.

When domesticated, the Neelghau is unsafe, because his attacks are sudden, and without the slightest notice, except that of a low muttering sound, and drawing the hind-legs beneath him, as preparatory to an onset. Hunter, the celebrated anatomist, who kept several of these fierce creatures

in a paddock, frequently exposed himself to their attack. They always dropt upon their knees (a symptom of their intention) when he entered; and instances are on record of both horse and rider having been prostrated by their furious charge. When the males prepare for combat, they approach each other kneeling, then spring up, and dash their heads together with appalling violence. It is related that a Neelghau once shattered a boarded paling by the force of his spring, when endeavouring to attack a countryman, who was passing on the other side. He discovered him by an acute sense of smelling, common to the tribe, and which is generally attended with a loud rushing noise.

THE KANGAROO, (*Kangarus labiatus*.)

THE tribes of wild animals we have still to notice are so singular in their formation, and in many respects, so unlike the rest of the quadrupeds, that naturalists have found it difficult to assign a place to them in their systems; the marsupial (*pouched*) animals in particular, although in the case of the female, they are all furnished with an extraordinary appendage, resembling a packet, in which they carry their young, still differ so much from each other, in other respects, that it is impossible to arrange them in one group, if the usual distinguishing marks, namely the teeth, are referred to.

A considerable number of genera are already known, the most prominent of which are the Kangaroos. The Kangaroo, and, with a few exceptions, all the *pouched* animals, are confined to the continent of Australia. These animals are

naturally of a quiet and inoffensive disposition, but if irritated and obliged to stand on the defensive, they are capable of becoming very formidable opponents. Their chief defensive weapon is the enormous and powerful claw with which each of their hinder-feet is furnished, but it is only in the last extremity that the Kangaroo acts on the defensive. On account of the great disproportion between the hinder and fore legs, the progressive motion of this animal is very curious; it rather leaps than runs, springing forward by the assistance of its powerful hinder legs, and its strong and muscular tail, which acts as a kind of supernumerary leg: their usual position is that shown in the engraving.



THE KANGAROO.

The Kangaroo is much sought after by the natives of New South Wales, and by the settlers, on account of its flesh, which is considered excellent

food ; on this account, it has become extremely scarce in the neighbourhood of the settlements.

THE DUCK-BILL, (*Ornithorhynchus paradoxurus*.)

THE Duck-bill is perhaps one of the most singular productions of animated nature, and if we were not perfectly aware of its existence, from the most unimpeachable testimony, we might be inclined, on hearing a description of it, to fancy that the narrator was amusing us with a fabulous history. The *Ornithorhynchus* frequents the water, it is covered with hair like a quadruped, it has four feet webbed like those of a water-bird, and its jaws are formed in the exact likeness of a duck's bill: like the Kangaroo, it is a native of Australia. In a recent part of the *Transactions of the Zoological Society of London*, there appears an excellent account of the natural history and habits of the Duck-bill, from the able pen of Mr. Bennet; his observations were made on the living animal. The Duck-bill, on account of its burrowing habits, is called by the colonists the Water-Mole.

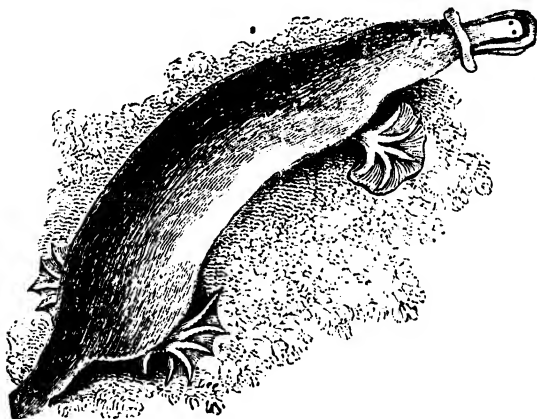
In describing his first sight of a living *Ornithorhynchus*, Mr. Bennet says,—

“ We soon came to a tranquil part of the river, such as the colonists call a pond, on the surface of which numerous aquatic plants grew. It is in places of this description, that the *Water Moles* are most commonly seen, seeking their food among the aquatic plants, while the steep and shaded banks afford them excellent situations for forming their burrows. We remained stationary on the banks, with gun in rest, waiting their appearance with

some degree of patience; and it was not long before my companion quietly directed my attention to one of these animals paddling on the surface of the water, not far distant from the bank on which we were then standing. In such circumstances they may be readily recognised by their dark bodies, just seen level with the surface, above which the head is slightly raised, and by the circles made in the water around them by their paddling action. On seeing them, the spectator must remain perfectly stationary, as the slightest noise or movement of his body would cause their instant disappearance, so acute are they in sight or hearing, or perhaps in both, and they seldom re-appear when they have been frightened. By remaining perfectly quiet when the animal is "up," the spectator is enabled to obtain an excellent view of its movements on the water; it seldom, however, remains longer than one or two minutes, playing and paddling on the surface, soon diving again and re-appearing a short distance above or below, generally according to the direction in which it dives. It dives head foremost with an audible splash.

Although the animal may "come up" close to the place where the sportsman is standing, it would be useless to attempt to level the gun, for that action alone would cause its instantaneous disappearance; but after waiting patiently until the animal dives, and watching the direction in which it sinks, preparation must be made to receive it with the discharge of the piece instantly on its re-appearance on the surface, which (when it descends unfrightened,) is almost certain to take place in a short time. A

near shot is necessary, a distant one is almost hopeless; and the aim should be invariably directed at the head, in which spot the shots are more likely to take effect than in the loose dense integuments of the body. I have seen the skull shattered by the force of the shot, when the integuments covering it have scarcely suffered injury.



THE DUCK-BILL.

When the fur of the animal is yet, it more resembles a lump of dirty weeds than any production of the animal kingdom. The spur on the hinder feet of the male *Ornithorhynchus* has been said, by those who have written on the subject, to contain a very deadly poison; this false idea Mr. Bennet set

at rest by experiment. Speaking of one recently taken, he says,—

“This specimen being a male, and having heard so much related about the injurious effects resulting from a puncture of the spur, I determined to avail myself of the opportunity to ascertain the correctness of the assertion. As soon, therefore, as it became lively, (it had been wounded,) I put its ‘poisonous’ spurs to the test. I commenced by placing my hands in such a manner, when seizing the animal, as to enable it, from the direction of the spurs, to use them with effect; the result was, the animal made strenuous efforts to escape, and in these efforts scratched my hand a little with the hind-claws, and even, in consequence of the position in which I held it, with the spur also. But although held so rudely, it neither darted the spur into my hand, nor did it even make an attempt to do so.”

Mr. Bennet made many other attempts with animals which were unwounded, but could never induce one of them to make use of their spurs.

The burrows of the *Ornithorhynchus* have one entrance, usually about the distance of a foot from the water’s edge, and another under the water, communicating with the interior by an opening just within the upper entrance.

During his search after these animals, Mr. Bennet made frequent inquiries of the natives as to the fact of this animal laying eggs or not, but the answers he obtained were seldom satisfactory, perhaps from each party mistaking the other’s meaning. It is now a clearly-ascertained fact, that the young are suckled by their mother, and, consequently, it is not at all

probable that they are hatched from eggs. When one of the blacks was asked, on what the young were fed, his answer was, "All same you white fellu first habo milliken, then make patta (eat) bread, yaul, &c." After many fruitless attempts, Mr. Bennet succeeded in capturing a full-grown female unhurt, but after keeping it for a few days, it managed to escape from its place of confinement. He afterwards succeeded in taking two young ones, of which he gives the following account:—

"On arriving at the termination of a very large burrow, a growling was distinctly heard, but although the animals were so far exposed that their fur was seen, and although there was abundance of growling, no attempt was made on the part of the animals to escape. On being taken out they were found to be full-furred young ones, coiled up, asleep, and they growled exceedingly on being exposed to the light of day. There were two, a male and female, of the dimensions of ten inches, from the extremity of the beak to that of the tail. They had a most beautifully sleek and delicate appearance, and seemed never to have left the burrow.

The eyes of the aborigines, both young and old, glistened when they saw the fine condition of the young *Mullagongs*. The exclamations of "*Cobbory fat*," (large, or very fat,) and "*Murry budgereee patta*," (very good to eat,) became so frequent and so earnest, that I began to tremble for the safety of my destined favourites; and having given them in charge to the natives to convey to the house, I turned and rode back more than once, from a fear lest they should be all devoured. But I was wrong

in my calculation on the natives' power of resisting temptation, for they brought them home safe, and were delighted with the reward of tobacco which was given them for their trouble.

"I arrived with my little family of *Ornithorhynchi* safe at Sydney, and as they survived for some time, an opportunity was afforded me of observing their habits. The animals appeared often to dream of swimming, as I have frequently seen their fore-paws in movement as if in the act. They usually reposed side by side, like a pair of furred balls, and awful little growls issued from them when disturbed; but when very sound asleep, they could be handled with impunity. They were very playful at times, sporting together like young puppies.

"Their eyes being placed so high on the head, they do not see objects well in a straight line, and consequently run against everything in the room, and upset whatever was easily overturned. They were particularly cleanly in their habits, and were constantly cleaning their fur, using their hinder feet after the manner of a comb. In the room in which they were confined was a chest of drawers, and they were frequently found on the top of them. It was some time before it could be discovered in what manner they reached this elevated spot; at length it was found out, that they succeeded in reaching it by climbing up between the back of the drawers and the wall, placing their feet against the wall, and pressing hard with their back against the back of the drawers. With all the care that could be bestowed upon them, they lived but a few weeks."

We have now completed a general survey of that part of the animal creation, which have never submitted to the yoke of man. Of these a considerable number are innocent and inoffensive creatures, quietly filling up their allotted places in the vast creation, where the hand of the Deity has placed them. Others are decidedly of use; others again seem like way-marks to point out the goodness of that great Being, who so wonderfully provides for their security and comfort: others, again, are seen to harass and despoil the work of God.

But why the more obnoxious of these creatures are called into life, and for what purpose they are permitted thus to act, are questions which naturally arise, while considering this portion of our subject.

To clothe in different language the eloquent sentiment of Demosthenes, when referring to the apparent disorder which is occasionally discoverable in the moral and natural creation: "Let me ask you," says he, "if you know, my friend, the intentions of the Deity, in producing that infinite variety of weeds and insects that follow one another in endless succession, which often appear superfluous, and are sometimes inconvenient to us? Nay, are you acquainted, reader, with the design of the shipwright, in constructing every part of those noble vessels that skim the blue ocean in front of your windows? Do you know the use of the pulleys and the ropes which bind up the rigging, and in what manner the pilot steers by means of the little compass he looks upon from time to time? Yet you would not scruple to commit yourself implicitly to his directions. Perhaps the tone of every string in the harp, upon which

you play, when touched separately, may emit a doubtful or discordant sound, and yet they are so admirably proportioned to one another, as to compose the most striking and delightful harmony. Will you then place less confidence in the just apportioning of everything in the great globe that we inhabit, than in the fitting of the ropes, pulleys, and pieces of timber in a vessel? or because you know more of the harmony of sweet sounds, than that of the universe, will you doubt the skill of Him, who is the soul of all that lives and moves, who breathes in the fragrance of the flower, who awakens the warbling chorus of the groves? If you are persuaded of the existence and omnipresence of God, of the boundless wisdom, benevolence, and rectitude of his designs, satisfy your doubts with the rational as well as pious solution of the question, that whatever occurs, either in the natural or moral world, tends to the good of all, and operates exactly as it ought."

Of the general design of some of his works we are, undoubtedly, incompetent judges; whilst in others, so much goodness is clearly manifested, that we are powerfully reminded to trust in his beneficence, where we are unable to understand his designs.

Mercy is his darling attribute,—judgment His strange work. This mighty Being has given life to a race of fierce and dangerous creatures; but then, in order to limit their devastations, he has confined them to certain portions of the globe; he has, moreover, endowed the rational creation with ample powers to circumvent, and to destroy them. The Bear is assigned to the lonely places of the earth—

to dark Scandinavian forests, and mountains of thick ice; to the banks of those noble rivers, those expansive lakes and those wide-spreading meadows, chequered with magnificent forests of the finest timber, which constitute the most remarkable features in North American scenery. The Wolf, wherever he can find a footing, prefers to dwell in cold and temperate regions; but from the latter he has been gradually expelled. The Chacal haunts the warmer portions of the Ancient World; the Hyæna, solitary and savage portions of the globe. The genus *Felis* is found beneath a fervid sun, in countries inhabited by the Elephant and Rhinoceros. Like the latter of these formidable creatures, they principally frequent the borders of lakes and rivers,—for as blood augments their thirst, they drink repeatedly to cool the fever that consumes them. They watch, also, beside the waters for the approach of other animals that resort thither; here they procure their prey, or rather multiply their massacres; for they often leave the creatures they have recently killed, that they may devour others.

Happily for mankind, the noxious species are few in number; and one important reason, which we shall directly state, may, doubtless, be assigned why they are thus permitted; for all things are ordered well, and evil is subservient to good. The wild regions they inhabit swarm with animated life, and vegetation assumes a character unknown to him who has never trod the thresholds of the eastern world. Those* who journeyed to the country of the Tambookies, in South Africa, relate that they were sur-

* Halbeck and his companions.

rounded, for several days, with an incredible number of wild animals—Spring Bocks, Quaggas, Koodoos, and Ostriches. Four Lions were ranging among the groups; but though they saw and smelt the caravan they evinced neither fear nor anger, but continued their walking pace, solely intent on their destined victims. Imagine, for a moment, the baneful consequences that must result from the decomposition of even a small part of this vast multitude, if left to perish in the ordinary course of nature. Consequently, such wild animals as prey upon the dead are absolutely necessary; and those which attend the living, perform important services in the general economy of nature. The one removes from the earth such unsightly objects as impair her beauty; the other preserves the order of her productions, and limits the number of the species; both are effects depending on the will of Him who called them into being.

Why it has pleased the Divine Creator of the universe to allow the existence of such a system, is not for us to inquire,—and with this the natural historian has no concern. Let us gratefully acknowledge the footsteps of His beneficence, in what we understand respecting this department of creation, nor arrogantly presume to disapprove that which is beyond our reach. Considering the great imperfection of our nature, and the limited capacities with which we are endowed, it best becomes us to contemplate the works of Deity with the utmost reverence, to study them solely with the design of discovering the manifestations they exhibit of infinite wisdom, to excite in ourselves devout affections, with a sense of our own deficiencies, or else to awaken

that gratitude which is the very essence of praise, and at the same time a reasonable and moral service.

Indeed, if we are seriously disposed thus to employ ourselves, the means and the motives are both at hand. The works of God present an infinite variety: in some, by narrowly observing them, we discover traces of astonishing power and beneficence, that may call forth the most exalted feelings of devout adoration; in others, we readily perceive irrefragable proofs that, for our transgressions, the glorious order of things has experienced a deep and momentous shock; in others, again, we trace such boundless manifestations of love and parental tenderness, as may well win upon our hearts, and lead us to love and confide in Him who thus careth for the feeblest of his creatures. And when considered as a grand and majestic whole, these works pour a flood of evidence, from every quarter, into all the avenues of the mind; inviting us to contemplate that undeviating wisdom, and that perfect power, to which the Prophet so beautifully refers, when he emphatically declares, "Ah, Lord God, thou hast spread abroad the earth, and the heavens are the work of thy hands; thy goodness extendeth unto all, and endureth for ever."

THE END.

LONDON
HARRISON AND CO., PRINTERS,
ST. MARTIN'S LANE.

APPROVED BOOKS

ON THE

SUPPLEMENTARY CATALOGUES OF THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

*The Works distinguished by a Star, are those published under the direction of the
Committee of General Literature and Education.*

*Algebra. A First Book of Algebra, specially adapted for Beginners 1s 6d

Algebra. The Elements of Algebra, chiefly intended for the use of Schools and the lower classes in Colleges, by the Rev. T. G. Hall, M A., Professor of Mathematics in King's College, London. 6s. 6d.

*America. Sketches of the Animal and Vegetable Productions of America, by Mary Roberts, Author of *Domesticated and Wild Animals*. With Engravings, 3s. 6d.

*Ancient History. The Elements of Ancient History. New Edition, 2s. See INSTRUCTOR, Vol VI, and *Modern History*.

The Student's Manual of Ancient History; containing the Political History, Geographical Position, and Social State of the Principal Nations of Antiquity; by W. C. Taylor, LL D. Second Edition. 10s 6d. See *Modern History*

Anglo-Saxon Church; its History, Revenues, and General Character By tl Rev. Henry Soames, M A, Author of *Elizabethan Religious History* Third Edition, revised and enlarged, 10s. 6d.

*Animals. The Book of Animals, with many Engravings. Sixth Edition, 1s 6d. See *Birds, Fishes, Reptiles, Shells, Trees*.

*Arithmetic Taught by Questions. Sixth Edition, 1s. 6d.

*———— Instructions for Teaching Arithmetic to Little Children, by the Rt. Rev. F. V. Short, D D., Lord Bishop of Sodor and Man Eighth Edition, 6d.

*———— Hints for Teaching Decimal and Vulgar Fractions, by the Same. 8d.

*Astronomy. Outlines of Astronomy, by the Rev. Professor Hall, King's College, London. Ninth Edition, 10d.

Lectures on Astronomy, delivered at King's College, London, by the Rev Prof. Moseley. Many Cuts 5s 6d.

Astronomy. *Recreations in Astronomy*, by the Rev. Lewis Tomlinson, M.A. Many Engravings. Second Edition. 4s 6d.

Bible Geography. *A Hand-Book of Bible Geography*; containing (in Alphabetical Order) a Brief Account of the chief Places mentioned in the Old and New Testaments, descriptive of their ancient and modern condition. With Twelve Maps, 2s.

Bible Maps, accompanied by Explanatory Memoirs, and forming a complete Historical and Descriptive Atlas of Scripture Geography, together with a copious Index of Scriptural and Modern Names. By William Hughes, F.R.G.S.; the Maps beautifully coloured. Bound in Cloth, 7s. 6d.

Bible Maps for Schools, 3s. sewed.

***Bible Spelling Book**, with many Cuts. New Edition. Two Parts, 4d. each.

***Bible Word-Book**; or, the Rudiments of English Grammar taught by the Words of the Old and New Testament, classed according to the Parts of Speech, and arranged according to the number of Syllables. Second Edition, 1s.

Biographical Sketches, selected from the SATURDAY MAGAZINE. With Illustrations, 1s. 4d.

***Biography.** *Readings in Biography*; a Selection of the Lives of Eminent Men of all Nations. Fourth Edition, 4s. 6d.

***Birds.** *The Book of Birds*, with many Engravings. Fourth Edition, 1s. 6d. See *Animals, Fishes, Reptiles, Shells, Trees*.

*—— *A Familiar History of Birds*, their Nature, Habits, and Instincts, by the Right Rev. E. Stanley, Lord Bishop of Norwich. Two Vols., with Engravings. Third Edition, 7s.

***Botany.** *The Elements of Botany*, with many Engravings. Fifth Edition, 2s.

British Months, a Poem, by the Right Rev. Richard Mant, D.D., Lord Bishop of Down and Connor. Two Volumes, 9s.

Butler. *Memoirs of the Life, Character, and Writings of Bishop Butler*, by the Rev. T. Bartlett, M.A., Rector of Kingstone, &c. With fine Portrait. Octavo, 12s.

***Calendar.** *The Book of the Calendar*, the Months, and the Seasons. New Edition, 2s. See *INSTRUCTOR*. Vol. IV.

***Class Reading Book**; designed to furnish Youth with useful Information on various Subjects, by George Ludlow, Master in Christ's Hospital. Third Edition, enlarged, 3s. bound.

Chemistry. *An Introduction to Chemical Philosophy*, being a Preparatory View of the Forces which concur to the Production of Chemical Phenomena, by J. F. Daniell, F.R.S., Professor of Chemistry, King's College, London. New Edition, much enlarged, 21s.

Christian Evidences. *Introductory Lessons on Christian Evidences.* 6d

***Christians.** *The Lives of Eminent Christians*, by the Rev. R. B. Hous, M.A. Four Volumes, Foolscap 8vo., with Portraits, 4s. 6d. each.

Christians. *The Early Christians; their Manners and Customs, Trials and Sufferings*, by the Rev. W. Pridgen, M.A. Third Edition, 4s.

***Christmas Carols (with Music); a Series of Original Sacred Songs**, suitable for the Festival of Our Lord's Nativity; adapted to Select Music, and to various National Airs; arranged for one, two, and three Voices, with Accompaniments for the Piano-Forte. Fourth Edition, 4s.

Church. *First Sundays at Church; or Familiar Conversations on the Morning and Evening Services*, by the Rev. J. E. Riddle, M.A. Fourth Edition, 3s. 6d.

***Churchman's Almanack.** Published Annually, 2d. and 4d.

***Church Scholar's Reading Book**, containing Readings in various Branches of Knowledge. Selected from the Saturday Magazine, for the use of Diocesan and other Schools; with a copious Explanatory Index to each Volume. Three Volumes, either of which may be had separately, 3s. each.

***Colliery Tale, or Village Distress.** 3d.

Columbus. *The Life and Voyages of Christopher Columbus, and his Discovery of the New World; with Engravings.* Second Edition, 2s. 6d.

***Conversations of a Father with his Children.** Two Volumes, with many Cuts. Fifth Edition, 5s. 6d.

Cook. *The Life, Voyages, and Discoveries of Captain Cook.* Many Cuts. Second Edition, 2s. 6d.

***Crusaders; or Scenes, Events, and Characters, from the Times of the Crusaders**, by Thomas Keightley. Two Volumes, with Engravings. 11s.

Deaf and Dumb Boy, a Tale by the Rev. W. Fletcher, M.A. Second Edition, 2s. 6d.

***Domesticated Animals, considered with reference to Civilization and the Arts**, by Mary Roberts. Many Cuts. Fifth Edition, 3s. 6d. See *Wild Animals*; and *Sketches of the Animal and Vegetable Productions of America*.

Education and Treatment of Children; *The Mother's Book, adapted to the Use of Parents and Teachers. Third Edition, 2s. 6d.

Elizabethan Religious History, by Henry Soames, M.A., Author of *The History of the Reformation; The Anglo-Saxon Church*, &c. Octavo, 16s.

***England. Outlines of the History of England**, by George Hogarth. Eleventh Edition, with Cuts, 1s. 3d. See *Rome, Greece, Sacred History*.

- ***England.** A School History of England; with a copious Chronology, Tables of Contemporary Sovereigns, and Questions for Examination, abridged from the Family History of England. 6s.
- ***England.** The Family History of England, by the Rev. G. R. Gleig, M.A. With an extensive Series of Pictorial Illustrations. Three Volumes, at 6s. 6d.
- ***English Grammar,** by the Rev. Dr. Russell, late Head Master of the Charter House. Ninth Edition, 1s. 6d.
- ***English Literature.** Readings in English Prose Literature; containing Choice Specimens from the best English Writers, with Essays on English Literature. Third Edition, 4s. 6d. See *Readings in Poetry*.
- ***Extracts from Travellers,** illustrative of Manners and Customs mentioned in various passages of Holy Scripture. With numerous Engravings. 4s.
- Euclid.** The Figures of Euclid, with Questions and a Praxis of Geometrical Exercises, by the Rev. J. Edwards, M.A., King's College. Second Edition, 3s.
- Fables and Moral Maxims,** in Prose and Verse, selected by Anne Parker. With One Hundred Wood Cuts. New Edition, 3s. 6d.
- ***Fables and Classical Sketches,** by a Clergyman. With Illustrations. 1s. 8d.
- ***Familiar Tales and Conversations,** with Easy Lessons from History. Many Cuts, 2s. See *INSTRUCTOR*, Vol. I.
- ***Fishes.** The Book of Fishes. With many Wood Cuts. Third Edition, 1s. 6d. See *Animals, Birds, Reptiles, Shells, Trees*.
- ***Geography.** Outlines of Geography, by George Hogarth. With Maps, &c. Fourteenth Edition, 10d.
- ***———** Descriptive Geography, with Popular Statistics of the various Countries and Divisions of the Globe. New Edition, 2s. See *INSTRUCTOR*, Vol. V.
- Recreations in Physical Geography, or the Earth as it is, by Miss R. M. Zorniliu. Many Cuts and Maps. 6s. See *Recreations in Astronomy*.
- ***Geometry.** A First Book in Geometry, including Plane and Solid Geometry, and an Introduction to Trigonometry; for Beginners. Third Edition, 1s. 6d.
- ***Greece.** Outlines of Grecian History, by the Rev. Barton Bouchier, M.A. With Cuts. Sixth Edition, 1s. See *Rome, England, Sacred History*.
- ***History of the Christian Church,** from the Ascension of Jesus Christ to the Conversion of Constantine, by the late Edward Burton, D.D. Fourth Edition, 6s. 6d.

History of the Church of Ireland: by the Rt. Rev. R. Mant, DD., Lord Bishop of Down and Connor. Two large Volumes, 17s. each.

VOLUME I.—From the Reformation to the Revolution, with a Preliminary Survey from the Papal Usurpation in the Twelfth Century, to its Legal Abolition in the Sixteenth.

VOLUME II.—From the Revolution to the Union; with a Catalogue of the Archbishops and Bishops, and a Notice of the Alterations made in the Hierarchy in the Reign of William IV.

House I live in; or Familiar Illustrations of the Structure and Functions of the Human Body. With Engravings. Second Edition, 2s. 6d.

Household Matters. Instructions in Household Matters; or, The Young Girl's Guide to Domestic Service. Written by a Lady, with an especial view to Young Girls intended for Service on leaving School. With Wood-cuts, 1s. 6d.

Humboldt's Travels and Discoveries in America. With Engravings, 2s. 6d.

The INSTRUCTOR; or Progressive Lessons in General Knowledge, with Questions for Examination. Seven Volumes, each being complete in itself, and Illustrated by numerous Wood Cuts. New Edition, 2s per Volume.

I. Familiar Tales, and Conversations, with Easy Lessons from History.

II. Lessons on Houses, Furniture, Food, and Clothing.

III. Lessons on the Universe; the Animal, Vegetable, and Mineral Kingdoms; and the Human Form.

IV. The Book of the Calendar, the Months, and the Seasons.

V. Descriptive Geography, with Popular Statistics of the various Countries, and Divisions of the Globe.

VI. Elements of Ancient History.

VII. Elements of Modern History.

Insects and their Habitations; a Book for Children. Cuts. Thirteenth Edition, 1s.

Instructions in Household Matters; or the Young Girl's Guide to Domestic Service. Written by a Lady, with an especial view to Young Girls intended for Service on leaving School. With Wood-cuts. 1s. 6d.

Jews. The Civil History of the Jews, from Joshua to Adrian; with incidental Notices of Manners and Customs, Geography and Antiquities. By the Rev. O. Cockayne, A.M., of King's College, London. 4s. 6d.

Jones, Sir William; His Life, by the late Lord Teignmouth.

Edited, with Notes, and a Memoir of Lord Teignmouth, by the Rev. S. C. Wilks, M.A. Two Vols., Portraits, 10s. 6d.

***Lessons of Praise, in easy Verse, for Children.** Fifth Edition, 4d.

***Lessons on Houses, Furniture, Food, and Clothing.** New Edition, 2s. See *INSTRUCTOR*, Vol. II.

***Lessons on the Universe; the Animal, Vegetable, and Mineral Kingdoms; and the Human Form.** New Edition, 2s. See *INSTRUCTOR*, Vol. III.

Light in Darkness: or, the Records of a Village Rectory. Third Edition, 3s. 6d.

***Little Reading Book for Young Children.** With Engravings. Twelfth Edition, 4d.

***Margaret Trevors; or, a Blessing on the Observance of the Lord's Day.** 4d.

***Mechanics.** Easy Lessons in Mechanics, with Familiar Illustrations of the Practical Application of Mechanical Principles. New Edition, 3s.

***Mechanics applied to the Arts, by the Rev. Professor Moseley,** King's College, London. Numerous Wood Cuts. Second Edition, 6s. 6d.

***Minerals and Metals; their Natural History, and Uses in the Arts; with Incidental Accounts of Mines and Mining.** With many Wood Cuts. Third Edition, 2s. 6d.

***Modern History.** The Elements of Modern History. New Edition, 2s. See *INSTRUCTOR*, Vol. VII.; and *Ancient History*.

The Student's Manual of Modern History; the Rise and Progress of the Principal European Nations, their Political History, and the Changes in their Social Condition; with a History of the Colonies founded by Europeans, by Dr. W. C. Taylor, Author of the *Manual of Ancient History*. Second Edition, 10s. 6d.

***Mohammedanism.** The History of Mohammedanism, and the Principal Mohammedan Sects, by Dr. W. C. Taylor. Second Edition 5s. 6d.

***Money Matters.** Easy Lessons in Money Matters. With Cuts. Fifth Edition, 1s.

***Music.** A Manual of Instruction in Vocal Music, chiefly with a view to Psalmody, by John Turner, Esq. Third Edition, 4s.

***Instruction Cards, prescribed in the above Manual;** No. 1, Notation; No. 2, The Diatonic Major Scale, or Key; with Examples. 1s. per Dozen Cards.

Natural History. *Sister Mary's Tales in Natural History; with Cuts.* Fifth Edition, 2s. 6d.

Natural History. See *Books of Animals, Birds, Fishes, Reptiles, Trees, Shells; Familiar History of Birds; Domesticated Animals; Wild Animals; Animal and Vegetable Productions of America; Minerals and Metals; Instructor, &c.*

Natural Philosophy. The Student's Manual of Natural Philosophy; Descriptions of the most important Philosophical Instruments, their History, Nature, and Uses; with complete Elucidations of the Sciences to which they respectively appertain. By Charles Tomlinson. 10s. 6d.

***Palestine.** Three Weeks in Palestine and Lebanon. Eighth Edition, with many Engravings. 3s.

***Park's Travels.** The Life and Travels of Mungo Park; with an Account of his Death, and the Substance of later Discoveries. With Wood Cuts. Second Edition, 2s. 6d.

***Persian Fables,** for Young and Old. By the Rev. G. Keene. Wood Cuts. Seventh Edition, 1s.

***Persian Stories;** illustrative of Eastern Manners and Customs. By the Same. Wood Cuts. Fifth Edition, 1s.

Penny Saved is a Penny Got; a Village Tale founded on Facts. Fifth Edition, 6d.

Poetry. Popular Poems, selected by Elizabeth Parker. New Edition 3s. 6d.

***Poetry.** Readings in Poetry; Selections from the Works of the best English Writers, with Specimens of the American Poets. Fifth Edition 4s. 6d.

Pretty Lessons for Good Children; with Easy Lessons in Latin, by Sara Coleridge. Fourth Edition, with Engravings, 2s.

***Physiology.** Popular Physiology; or Familiar Explanations of Interesting Facts connected with the Structure and Functions of Animals, and particularly of Man, by the late Dr. Lardner. With numerous Engravings. Second Edition, 7s. 6d.

***Roman History.** Outlines of Roman History, by George Hoagarth. Seventh Edition, with many Wood Cuts, 10d.

***Reading Books.** The First Book, 2d. The Second Book, 8d. The Third Book, 1s. 8d. The Fourth Book, 2s. 8d.

Reasoning. Easy Lessons on Reasoning, reprinted from the *Saturday Magazine*. Second Edition, revised, 1s. 6d.

***Reptiles.** The Book of Reptiles. With many Wood Cuts. Third Edition, 1s. 6d. See *Animals, Birds, Fishes, Shells, Trees*.

***Sacred Poets.** Lives of the English Sacred Poets. By R. A. Willmott B.A. Two Volumes, 9s.

***Sacred History.** Outlines of Sacred History, from the Creation of the World, to the Destruction of Jerusalem. Sixth Edition, with many Cuts 3s. 6d.

Sacred Minstrelsy: a Collection of Sacred Music from the finest Works of the Great Masters, arranged as Solos, and Concerted Pieces for Private Performance, with Accompaniments for the Piano Forte, Organ, &c With Biographical Sketches of the Composers, and Historical and Critical Accounts of their Works Half bound, in Two handsome Folio Volumes, Turkey Morocco, Two Guineas.

Sancroft. 'Life of Archbishop Sancroft, by George D'Oyly, D.D. Second Edition With Portrait, 9s

Saturday Magazine. Half Yearly Volumes, 1. to XXV., at 4s. 6d.
 Annual Volumes, 1833 to 1844, at 7s. 6d.

***Schools.** Hints on School-Keeping. By the Right Rev. T. V. Short, D.D. Lord Bishop of Sodor and Man. 8d.

***Science.** Readings in Science, or Familiar Explanations of Appearances in Nature, and of Principles in Natural Philosophy Third Edition, with many Cuts, 5s See *Natural Philosophy*

***Shells.** The Book of Shells, with numerous Engravings. Third Edition, 1s. 6d

***Sunday Schools** Hints for the Formation and Management of Sunday Schools, by the Rev J. C. Wigram. Fifth Edition, 1s. 6d.

• Advice to Teachers of Sunday Schools in connection with the Church, by the Rev. John Medley, sixteenth Edition, 3d.

• A Pocket Manual for the Sunday School Teacher, by the Rev. J. Hull. Fifteenth Edition, 1s

Susan Carter, the Orphan Girl. Fourth Edition, 6d.

Part II., 8d.

Tales and Stories from History. By Agnes Strickland. Third Edition. Two Volumes, with Cuts, 7s.

Travels. See *Humboldt's Travels, Palestine and Lebanon, Park's Travels.*

***Trees.** The Book of Trees. With many Engravings, 2s. See *Animals, Birds, Fishes, Reptiles, Shells*

Useful Hints for Labourers, selected from the Publications of the Labourers' Friend Society. Two Series, 1s 6d each.

***Village Anals,** or the Story of Hetty Jones. Sixth Edition, 9d.

Voyages. See *Columbus' Voyages, Cook's Voyages.*

Wild Animals; their Nature, Habits and Instincts, by Mary Roberts. With many Engravings. Second Edition, 3s 6d See *Domesticated Animals.*

LONDON: JOHN W. PARKER, PUBLISHER, WEST STRAND.

